

The Mining Journal.

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The Mining Journal is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2303.—Vol. XLIX.

LONDON, SATURDAY, OCTOBER 11, 1879.

[WITH SUPPLEMENT.] PRICE SIXPENCE. PER ANNUM, BY POST, £1 4s.

MR. JAMES H. CROFTS, STOCK AND SHARE BROKER, AND MINING SHARE DEALER,
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Bonds (Foreign and Colonial), Railways, Insurance, Assurance, Telegraph, Tramway, Shipping, Canal, Gas, Water, and Dock Shares, and all Miscellaneous Shares.

BUSINESS negotiated in Stocks and Shares not having a general market value.

Every Friday a general and reliable List issued (a copy of which will be forwarded regularly on application), containing closing prices of the week.

MINES INSPECTED.

BANKERS: CITY BANK, LONDON—SOUTH CORNWALL BANK, ST. AUUSTELL.

SPECIAL DEALINGS in the following, or part:—

25 Colorado, £1½.	150 Javali, 7s. 3d.	100 Penrith, 1s.
20 Devon Consols.	50 Killbreth, 7s. 6d.	10 Richmond, £2.
5 East Lovell, £3½.	20 Leadhills, £2½.	20 Tankerville, £4½.
20 East Van, £2 3s. 9d.	5 Leadhills, 10s.	25 West Asheton, 16s. 3d.
20 Eberhardt, £2½.	45 Morla Du, 16s.	25 Wye Valley, 20s.
50 Flagstaff, 11s.	50 Pandora.	20 West Chiverton.
50 Frontino, £2 3s. 9d.	100 Pestarena, 4s. 6d.	20 Wheel Orehor, £4 2s. 6d.
20 Herodfoot, £2½.	100 Parys Corporat., 15s. 6d.	

SPECIAL BUSINESS in TIN Shares.—Carn Brea, Dolcoath, East Lovell, South Cornubury, South Franches, Tincroft, West Franches, West Peavor, Wheel Basset, Grenville, Jane, Kitty, Peavor, and others.

* * SHARES SOLD FOR FORWARD DELIVERY (ONE, TWO, OR THREE MONTHS) ON DEPOSIT OF TWENTY PER CENT.

RAILWAYS—SPECIAL BUSINESS.

FOREIGN BONDS—SPECIAL BUSINESS.

Fortnightly accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

ESTABLISHED 1842.

MR. W. H. BUMPUS, STOCK AND SHARE BROKER, AND MINING SHARE DEALER,
44, THREADNEEDLE STREET, LONDON, E.C.
ESTABLISHED 1867.

BUSINESS transacted in STOCK EXCHANGE SECURITIES

AND MISCELLANEOUS SHARES of every description.

RAILWAYS, BANKS, FOREIGN AND COLONIAL BONDS.

TRAMWAYS, TELEGRAPHS, and all the LEADING INVESTMENTS.

Accounts opened for the Fortnightly Settlement

A Stock and Share List free on application.

MR. BUMPUS has SPECIAL BUSINESS in the undermentioned:—

75 Almada, 6s. 6d.	50 Frontino, £2 3s. 9d.	50 North D'Ersby.
100 Bodidris.	50 Flagstaff, 11s. 6d.	30 New Quebrada, £2 11s. 3d.
30 Blue Tent, 37s. 6d.	25 Great Holway.	500 Parys Copper, 15s. 6d.
25 Bedford United, 11s. 6d.	100 Gold Run, 3s. 9d.	50 Pandora.
50 Colorado, 29s. 6d.	40 Gawton.	150 Port Phillip, 9s. 9d.
50 Canada Gold.	5 Great Laxey, £17½.	20 Ruby, £2½.
3 Carn Brea, £52.	50 Glenroy.	10 Richmond, £3½.
10 Cape Copper, £23½.	20 Herodfoot, £23½.	10 Roman Grav., £3½.
15 Cook's Kitchen, £3½.	50 Hultafall, £2½.	5 South Condurow.
20 Devon Consols, £53½.	35 Hingston Down.	35 South Franches, £10½.
100 Don Pedro, 13s. 6d.	100 Javali, 6s. 6d.	100 Tamar Silver-Lead.
2 Dolcoath, £42½.	150 Killbreth.	5 Van, £17½.
50 East Caradon, 28s.	50 Kapanga, 5s. 6d.	20 Wheel Grenville, £5½.
15 East Lovell, £4.	25 Leadhills, £2½.	10 Wheel Peavor, £15.
25 East Van, £2 3s. 9d.	20 Mellanear, £3 18s. 9d.	50 West Holway.
5 East Pool, £17½.	40 Marke Valley, 28s.	10 Wheel Jane, £4½.
20 Eberhardt, £2½.	100 Nouveau Monde.	5 West Seton.

IMPORTANT TO INVESTORS.

THE RISE IN TIN AND COPPER.

SOUND INVESTMENTS IN HOME MINES.

Those who have followed my advice during the past two months (and for some time previously) may already realise good profits; but with the revival of Trade generally, and the greatly improved position and prospects of the Metal Markets, there is ample room for a further rise in SOUND TIN AND COPPER SHARES. A judicious purchase of these at present prices cannot fail to produce very remunerative results within a comparatively short period. Shares in SOUND LEAD MINES are also worth buying.

A Selected List free to bona fide investors.

SPECIAL BUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.

A complete and reliable List of all the Leading Investments (published on the first of each month) may be obtained free on application to—

WILLIAM HENRY BUMPUS, SWORN BROKER.

OFFICES: 44, THREADNEEDLE STREET, LONDON, E.C.

BANKERS: THE NATIONAL PROVINCIAL BANK OF ENGLAND, E.C.

MESSRS. JONES AND HUSTON, 25, CROSBY HALL CHAMBERS, LONDON, E.C.,

STOCK AND SHARE DEALERS, AND GENERAL MINING AGENTS.

Can, without prejudice, recommend to their clients and investors in general the purchase of Shares in the following properties:—

BRYN GLAS.	RYDALUN.
DON PEDRO.	SENTEIN.
PANT-Y-MWYN.	

BRYN GLAS.—These shares will shortly be allotted, after which they cannot fail to command a high premium, more particularly as the applications will no doubt exceed the number to be allotted, and the mine is undoubtedly second to none in Cardiganshire, as results show.

BANKERS: LONDON AND PROVINCIAL.

MR. E. J. BARTLETT, BRITISH AND FOREIGN STOCK AND SHARE DEALER,
No. 30, GREAT ST. HELEN'S, LONDON, E.C.

JUST OUT.

"HOW TO INVEST," post free, One Shilling, Twelfth Edition, enlarged.

FERDINAND R. KIRK, 5, BIRCHIN LANE, LONDON, E.C.

FORTNIGHTLY ACCOUNTS opened, on receipt of the usual "cover," in Railways Home and Foreign, Mining Shares, Foreign Bonds, and certain Miscellaneous Securities.

"THE WEEK."—A SEPARATE EDITION from that which appears in the Mining Journal is published every Wednesday evening, containing "Notes and Hints on the Stock Markets," with Closing Prices. May be had on application.

BANKERS: LONDON AND WESTMINSTER, Lothbury.

MR. GEORGE BUDGE, STOCK AND SHARE DEALER,
9, GRACECHURCH STREET, LONDON, E.C. (Established 26 years).

ALL BUSINESS TRANSACTIONS FREE OF ANY CHARGE FOR COMMISSION.

Notice to Investors and Speculators.

Mr. BUDGE has SPECIAL DEALINGS in:—
100 Bedford United, 10 East Lovell, £3½.
50 Blaen Caelan, £3½.
50 Greys Brewery, 45s.
100 Carn Brea, £53½.
20 Grovinton, £2.
10 Cook's Kitchen, £2½.
200 Gold Run, 2s. 6d.
70 Combmartin, 18s. 9d.
75 Herodfoot, 10s.
100 Devon Consols, 100 Marke Valley, 26s.
10 Dolcoath, £42.
40 Devonport and Tiverton Brewery, 95 North D'Ersby, 20s.
100 Pandor, 12s. 2d.
30 Wheel Orehor, £4 6s. 3d.

125 Parys Corporation, 14s. 9d.
40 Penhalls, 4s.
3 South Caradon, £56.
5 South Crofty, £20.
10 South Franches, £10.
00 Tamar Silver-Lead, 00s.
21 Wheel Kitty, 21s.
00 Wheel Uny, 00s.
00 Wheel Basset, £3.
00 Wheel Orehor, £4 6s. 3d.

BUYERS or SELLERS of any of the above, or holders of any Stocks or Shares not readily marketable, will do well to apply to Mr. BUDGE.

HOME MINES—LEAD, TIN, AND COPPER.

BRITISH LEAD, TIN, and COPPER having been lower in price than ever known, it is at last satisfactory to observe an upward tendency. The general feeling is that these METALS will now continue to rise in price.

Most of our HOME LEADING DIVIDEND and PROGRESSIVE LEAD, COPPER, and TIN MINE SHARES are now at a mere NOMINAL figure, and we strongly recommend immediate purchase in many of them, a List of which can be had on application.

MESSRS. PETER WATSON AND CO.,

54, OLD BROAD STREET, LONDON, E.C.

UNITED STATES AND COLONIAL MINES.

IMPORTANT INFORMATION REGARDING THE ABOVE.

BUYER and SELLER of SHARES at the close Market Price of the day.

SHAREHOLDERS and INVESTORS may rely on all business being punctually and faithfully carried out.

A DAILY LIST OF PRICES sent (free) on application, either personally or by post.

BANKERS: THE ALLIANCE BANK (Limited).

MESSRS. PETER WATSON AND CO.,

54, OLD BROAD STREET, LONDON, E.C.

BRITISH AND FOREIGN MINES

SHAREHOLDERS and INVESTORS desirous of PURCHASING or SELLING SHARES in COPPER, TIN, LEAD, GOLD, or SILVER MINES can do so at market prices, and obtain information regarding the same on personal application, or by letter, of—

MESSRS. PETER WATSON AND CO.,

54, OLD BROAD STREET, LONDON, E.C.

Telegraphic Messages punctually attended to.

STOCK AND SHARE MARKETS.

Prices of STOCKS and SHARES in RAILWAYS, BANKS, ENGLISH and FOREIGN GOVERNMENT SECURITIES, GAS, MINES, INSURANCE, and other Stock Exchange Securities, and various important information telegraphed instantaneously from the STOCK and SHARE MARKETS direct into the offices of—

MESSRS. PETER WATSON AND CO.,

54, OLD BROAD STREET, LONDON, E.C.

From 11 A.M. to 4 P.M. (Saturdays 11 A.M. to 2 P.M.) for the information of customers.

MR. ALFRED H. COOKE, STOCK AND SHARE DEALER,

75, OLD BROAD STREET, LONDON.

ESTABLISHED 1853.

SPECIAL.—The ATTENTION OF INVESTORS is respectfully directed to "INVESTMENT NOTES," by Mr. ALFRED H. COOKE, in the Mining Journal. Any of the shares recommended, and ALL MARKETABLE SHARES, can be supplied at closest current prices, and on BETTER TERMS than those PUBLICLY ADVERTISED. The highest price is also given to Sellers. Telegrams command immediate attention. Mr. COOKE's offices being much closer to both the Stock Exchange and Mining Market than those of any other Dealer or Broker.

75, OLD BROAD STREET, LONDON.

(Adjoining the Stock Exchange and Mining Markets.)

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FOREIGN BONDS, TELEGRAPHS, TRAMWAYS, RAILWAYS, AND OTHER LEADING SECURITIES.

MR. JAMES STOCKER, STOCKBROKER,

2, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.

ESTABLISHED 1848.

SPECIAL BUSINESS in BRITISH and FOREIGN MINES.

BANKERS: LONDON AND WESTMINSTER.

MR. JOHN RISLEY, STOCK AND SHARE BROKER,

38, CORNHILL, LONDON, E.C.

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Reliable information on all Mines obtained for clients.

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Have Agents in England, Scotland, Wales, and on the Continent.

MESSRS. E. KINS AND CO.,

STOCK AND SHARE DEALERS,

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BANKERS: METROPOLITAN.

JOHN B. REYNOLDS, STOCK AND SHARE DEALER,

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Confidential enquiries quickly answered. Telegrams promptly attended to.

Close prices and accurate intelligence may be relied upon.

MR. J. J. REYNOLDS (THE PERFECTION GAS APPARATUS COMPANY), 6, MOORGATE STREET, LONDON, E.C.,

Thinks the present time good for investment, and will SELL at net prices the following shares:—

5 Wigan, £1 10s.	5 West Chiverton, £4½.
1 Dolcoath, £45.	5 Devon Consols, £5 5s.
5 Tankerville, £4 15s.	5 Van Consols, £18.
	10 Crebhor, £4 2s. 6d.
	5 East Caradon.

And has BUSINESS in Bodidris, Pennant, Denbighshire Consolidated, and Lead Era.

MR. T. E. W. THOMAS, STOCK AND SHARE DEALER,

3, GREAT WINCHESTER STREET, E.C.

The following are prices at which business can be done:—

Buyers.	Sellers.	Buyers.	Sellers.
Dolcoath, £40	£42½	Marke Valley, £1¼	£1½
Don Pedro, 11s.	13s.	Parys Corporation, 13s. 6d.	14s. 6d.
East Caradon, 1½	1¾	Tankerville, 4½	4¾
East Van, 2	2½	West Peavor, 4½	4¾
Herodfoot, 2½	2¾	Wheel Orehor, 5	5½
Leadhills, 2½	2¾	Wheel Grenville, 5	5½
Morla Du, 13s.	15s.	Wheel Jane, 4	4½

Friday Evening, October 10, 1879.

MR. W. MARLBOROUGH, STOCK AND SHARE DEALER,

29, BISHOPS-GATE STREET, LONDON, E.C.

Can SELL the following SHARES at prices annexed:—

40 Bedford United, 9s.	20 Herodfoot, £2 4s. 6d.	10 Richmond, £3 1s. 3d.
50 Chontales, 5s.	25 Leadhills, £2 13s. 9d.	200 Ross Grande, 2s. 9d.
60 Don Pedro, 13s.	5 Lisburne, £35.	25 South Darren, 27s. 6d.
25 East Caradon, 26s. 6d.	20 Marke Valley, 25s.	75 Tamar Silver-Lead.
call paid, 2s. 6d.	10 Minera, £3½.	50 Victoria (London)
10 East Lovell, £3½.	40 Morla Du, 14s. 6d.	Mining Company
25 East Van, £2 5s.	20 N. Quebrada, £2 15s.	20 West Chiverton, £4½
20 Eberhardt, £2 12s. 6d.	25 Pateley Bridge, 17s. 6d.	25 West Holway, £1¼
40 Flagstaff, 8s. 9d.	100 Pestarena, 4s. 9d.	50 Yorks Peninsula (pref.)
20 Great Holway.	100 Port Phillip, 9s. 9d.	15s. 6d.

A BUYER of 50 Tonnas at £1¼.

MR. CHARLES THOMAS,

MINING AGENT, STOCK AND SHARE DEALER,

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MR. ALFRED THOMAS,

MINING AGENT, AND STOCK AND SHARE DEALER,

10, COLEMAN STREET, LONDON, E.C.

"HOW TO TAKE ADVANTAGE OF THE COMING RISE IN PRICES,"

By ALFRED THOMAS, 10, Coleman-street, E.C.

Will be forwarded to Investors upon application.

MR. EDWARD ASHMEAD, 62, CORNHILL, LONDON,

LONDON MINE AGENT, ACCOUNTANT, AND AUDITOR.

TO INVESTORS, SHAREHOLDERS, TRUSTEES.

SAFE DIVIDEND INVESTMENTS PAYING 4 TO 6 AND 10 PER CENT.

PER ANNUM ON PRESENT OUTLAY.

SHARP'S INVESTMENT CIRCULAR.

The OCTOBER EDITION (post free).

SHOULD BE CONSULTED BY INVESTORS AND SHAREHOLDERS.

It is a Reliable "Guide," giving valuable information and Sound Advice, &c. It gives Market prices; Dividends upon outlay, when payable; Reports, &c., &c.

IT CONTAINS ALL THE SAFE INVESTMENTS IN THE FOLLOWING:—

English, Foreign Railways.	Insurance, Gas, Waterworks.
Preference, Debenture Stocks.	Colonial, Foreign Stocks.
Indian, American Stocks.	British, Foreign, Colonial Mines.
Bank, Financial Shares.	Tin, Lead Shares.
Tramway, Telegraph Shares.	Shipping, Dock Shares.
Municipal Bonds.	Miscellaneous Shares, &c., &c.

HENRY GOULD SHARP, STOCK AND SHARE BROKER,

42, POULTRY, LONDON, E.C.—ESTABLISHED 1852.

BANKERS: LONDON AND WESTMINSTER, Lothbury, London, E.C.

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Mr. THOMPSON transacts business in every species of Stock Exchange and Mining Securities.

Mr. THOMPSON affords reliable information to investors, and can give, when desired, a list of first-class Stocks and Shares, yielding 4 to 10 per cent. dividends upon present prices.

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TAMAR MINE.—This mine is in the same district as Crebor, and shares should be bought at present low price.

BODIDRIS MINE.—Splendid specimens of ore from the Maes-y-pwll lode, just received, may be seen at our office.

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MR. JOHN BATTERS, STOCK AND SHARE DEALER,

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Special information to Investors in Lead Mines, also in Swedish, Canadian, and other securities.

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FOR SALE, a FIRST-CLASS SECOND-HAND 80 in. CORNISH PUMPING ENGINE,

with several 11 ton BOILERS.

Apply, Wm. BENNETTS, Roskear, Camborne.

FOR SALE, the WHOLE OR PART:—

2 D'Ersby Mountn. 25 Wheel Orehor. 100 Van Consols and Glyn

20 Hornachos. 100 Bettwys-y-Coed. Amalgamated.

50 Bwlch United. 50 Morla Du. 20 Marke Valley.

100 Parys Corporation. 100 Pandora.

25 West Peavor.

WANTED—£1000 by one, two, or four parties, for which they will receive £4000 worth of stock that is confidently anticipated will be worth double the amount in six months.

A Selected List of Dividend and Progressive Mines for an immediate rise will be forwarded upon application.

Address, H. WILKINS, 3, Heybourne Villas, Tottenham.

FOR SALE, —200 Almada and Tiritio, 5s. 9d.; 25 Marke Valley,

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WANTED—50 Van Consols and Glyn United, 5s.; 25 East Vans (or part), £2;

100 Exchequer Gold, 2s. 6d.—all per share.

Address, "H. G. T.," MINING JOURNAL Office, 26, Fleet-street, London.

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NEAR CHESTER
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GOLD AND SILVER AMALGAMATING MACHINERY,
MINING TOOLS,
ROCK DRILLS, AIR COMPRESSING ENGINES, and all the necessary accessories for MACHINE BORING.
SPECIAL ATTENTION given to MACHINERY for FOREIGN MINES.
SECOND-HAND MINING MACHINERY FOR SALE.
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MANUFACTURE RAILWAY CARRIAGES and WAGONS of EVERY DESCRIPTION, for HIRE and SALE, by IMMEDIATE or DEFERRED PAYMENTS. They have also WAGONS FOR HIRE capable of carrying 6, 8, and 10 tons, part of which are constructed specially for shipping purposes. Wagons in working order maintained by contract.

MANUFACTURERS also of IRONWORK, WHEELS, and AXLES.
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BICKFORD'S PATENT**SAFETY FUSE**

FIRE TO THE
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Obtained the PRIZE MEDALS at the "ROYAL EXHIBITION" of 1851; at the "INTERNATIONAL EXHIBITION" of 1862 and 1874, in London; at the "IMPERIAL EXPOSITION," held in Paris in 1855; at the "INTERNATIONAL EXHIBITION," in Dublin, 1865; at the "UNIVERSAL EXPOSITION," in Paris, 1867; at the "GREAT INDUSTRIAL EXHIBITION," at Altona, in 1869; TWO MEDALS at the "UNIVERSAL EXHIBITION," Vienna, in 1873; and at the "EXPOSICION NACIONAL ARGENTINA," Cordova, South America, 1872.



BICKFORD, SMITH, AND CO.,
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EVERY COIL of FUSE MANUFACTURED by them has TWO SEPARATE THREADS PASSING THROUGH the COLUMN of GUNPOWDER, and BICKFORD, SMITH, AND CO. CLAIM SUCH TWO SEPARATE THREADS as THEIR TRADE MARK.

BENNETTS' SAFETY FUSE WORKS,

ROSKEAR, CAMBORNE, CORNWALL.

BLASTING FUSE FOR MINING AND ENGINEERING PURPOSES

Suitable for Wet or Dry Ground, and effective in Tropical or Polar Climates.

W. BENNETTS, having had many years' experience as Chief Engineer with Messrs. Bickford, Smith, and Co., is now enabled to offer Fuse of every variety of his own manufacture, of best quality, and at moderate prices.
Price Lists and Sample Cards may be had on application at the above address.
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NO MORE THROTTLE VALVES.**NO MORE LEAKY PISTONS.****NO ADDITION TO PRIME COST.**

For full particulars and prices of the "TURNBULL" simple cut-off valve gear and the double-action piston packing, apply to—

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CONSULTING ENGINEER, 184, BUCHANAN STREET, GLASGOW.

FRANCIS AND JENKINS,

GREENFIELD WORKS,

LLANELLY, S. WALES,

MANUFACTURERS OF THE

Improved Solid Steel Shovels, C. S. Forks, Solid Steel Miners' Shovels, Railway and Miners' Picks, Steel-pointed Spades and Shovels, Draining and Grafting Tools, &c.

ALSO MANUFACTURERS OF

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RABBLE HEADS, PADDLES, AND EVERY DESCRIPTION OF LIGHT HAMMERED WORK.

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High-class Varnishes and Japan,

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LAMP MANUFACTURERS,

AGRICULTURAL IMPLEMENT MANUFACTURERS, DECORATORS, &c.

Lists and Samples on application.

Wheal Peavor, West Peavor, Wheal Boys, Wheal Frussell, North Trekerby, West Tolgus, East Pool, South Crofty, Carn Brea, Fincroft, Cook's Kitchen, Dolcoath, West Frances, South Frances, West Basset, Wheal Basset, Penstruthal, Cornford, South Condurrow, Tolarne, and all other adjacent and surrounding Mines in the parishes of Camborne, Illogan, Redruth, and Gwennap.

A MAP, showing the present Boundaries, &c., of the above Mines, coloured, but unmounted, for 10s. 6d., or mounted on cloth and rollers for 15s., may be had, carriage free, from the Author, R. SYMONS, 11, Parade, Truro, on his receipt of P. O. Order for the amount.

SPAIN AND PORTUGAL

MR. J. T. JOHNSON, Assoc. Inst. C.E., F.G.S., &c., CIVIL and MINING ENGINEER, late of Chester and South Wales, having joined Mr. T. M. JOHNSON, who for the last 13 years has been engaged in Spain and Portugal, is prepared to INSPECT PROPERTIES and OUT GENERAL MINING and ENGINEERING WORKS in those MI
ADDRESS:—CORREIO DO CORVO, PORTUGAL.

JOSEPH FIRTH AND SONS' NEW PATENT BRICK-MAKING MACHINE

EMBRACES THE FOLLOWING ADVAN-

TAGES, VIZ.:—

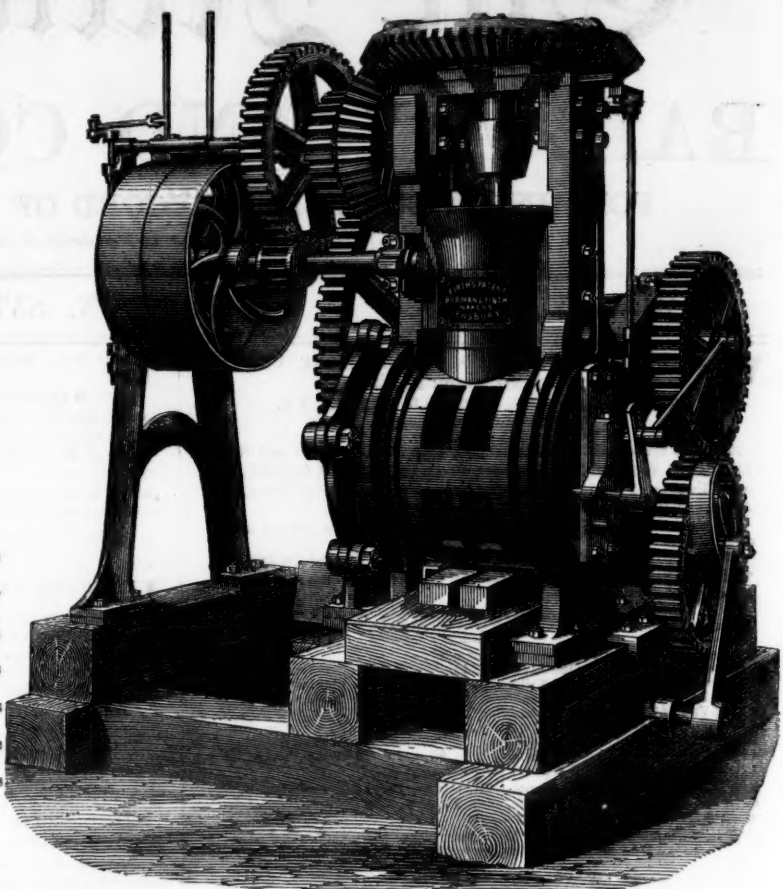
SIMPLICITY, STRENGTH, AND
DURABILITY.

COMPACTNESS AND EXCELLENCE OF
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LARGE PRODUCING CAPABILITIES.

MODERATE COST.

It makes two bricks at once, and will make 12,000 to 14,000 Plastic Pressed Bricks per day, hard enough to go direct to the Kiln without drying; or it will make the bricks thoroughly plastic if required. For Works requiring a Machine at less cost the Machine is made to turn out one brick at once, and is capable of producing 8000 bricks per day.



The Machine can be seen at work daily at the Brickworks of the Patentees, Joseph Firth and Sons, Webster Hill, Dewsbury, as also their Patent Gas Kiln for Burning Bricks, which possesses the following amongst other advantages, viz.:—Economy in Fuel, Rapidity and Quality of Work, even Distribution of Heat, and Total Consumption of Smoke.

SAMUEL DENISON & SON'S WEIGHING MACHINES

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Lectures on Practical Mining in Germany.

CLAUSTHAL MINING SCHOOL NOTES.*

BY J. CLARK JEFFERSON, A.R.S.M., WH. SC.,

Mining Engineer, Wakefield.

(Formerly Student at the Royal Bergakademie, Clausthal.)

[The Author reserves the right of reproduction.]

The publication of the Lecture this week is unavoidably postponed.

* Being Notes on a Course of Lectures on Mining, delivered by Herr Berggrath Dr. VON GRODECK, Director of the Royal Bergakademie, Clausthal, The Harz North Germany.

SOUTH STAFFORDSHIRE AND EAST WORCESTERSHIRE INSTITUTE OF MINING ENGINEERS.

The monthly meeting of members was held on Monday in the Mining Museum, Dudley.—Mr. HENRY JOHNSON, sen. (President) in the chair; Mr. WM. J. HAYWARD, Vice-President.

The minutes of the last meeting were read and confirmed. Mr. ALEXANDER SMITH, C.E. (the secretary), read a letter from the secretary of the North Staffordshire Institute, in which the latter promised to arrange for the consideration of an application of Mr. Nelson Boyd's paper on "Masters' Liabilities," alluded to at the last meeting. Mr. Ralph Bennett, ironmaster, Smethwick, and Mr. Alfred Bowkley, mining engineer, Coseley, were unanimously elected ordinary members. The SECRETARY reported that Mr. André, the inventor of the new electric safety-lamp, had promised to read a paper and exhibit a lamp at the next meeting.

The PRESIDENT announced that the opening of the New Severn Bridge below Gloucester had not yet been definitely fixed, but as soon as it was arrangements had been made by which he was to be informed of the event, and the secretary would then communicate to the members at once.

In reply to the PRESIDENT, the SECRETARY said the length of the bridge was 4162 ft., and the river was 3558 ft. wide at that point.

The SECRETARY exhibited a model of Leonard's patent safety-cage and apparatus for preventing overwinding. It can be seen at Lord Dudley's No. 30 Pit, near Cradley Station.

Hearty votes of thanks were given to Mr. Keeling, the engineer of the New Severn Bridge, for a lithograph of the structure; to Mr. Thomas Brettell, for a detailed plan of the Corngreaves Works, made by the President in his second year of apprenticeship; and to Mr. Thomas Parton, for two photographs of Winstanley and Barker's coal-cutting machine. Mr. Doody's plan of the Shropshire coal field was examined, and the President showed a horse-shoe embedded in a piece of poplar.

Mr. W. Davey, photographer, exhibited a photograph showing the Thick coal, and a group of members with Lord Shrewsbury and his party, at Lord Dudley's Clay Croft Openworks, and presented the Institute with a copy, for which a vote of thanks was accorded Mr. Davey.

ELECTRIC LIGHT—THE LONTIN SYSTEM

It has long been acknowledged by electricians that for brilliancy and reliability the Serrin lamp left little to be desired, and it seems that that little has now been supplied in the Lontin, which is one step forward in the development of the same system. On Monday evening a number of scientific gentlemen and electricians met at the Three Nuns Hotel, adjoining the Metropolitan Railway, Aldgate, to hear, previously to examining the light in use on that line, an account of the progress made in perfecting the Lontin apparatus. The Lontin light has for some time past been and still is in successful use in Paris, and is not unknown to the inhabitants of and visitors to London, being that which was for some time exhibited in the Strand during last winter by Mr. John Hollingshead, of the Gaiety Theatre. Since that time, many little imperfections noticed by those interested have been remedied, and eight lamps are now in use at the Aldersgate-street Station of the Metropolitan Railway. At the meeting in question, the chair was occupied by Mr. Myles Fenton, the general manager of that line, and Mr. G. P. Harding, who first introduced the light into this country, and in whose workshops at Paris the machinery is at present constructed, having explained the details of the improvements which had been introduced since the system was first brought before the public, there was an interesting discussion, in which Mr. W. Crookes, F.R.S., Mr. Tomlinson, the engineer of the Metropolitan Railway, and others took part. The opinion was without exception favourable to the quality and efficiency of the Lontin lamp, but some fear was expressed that the present high price would probably limit its application.

The economy of the system was ably maintained by Mr. Bernard Godfrey, the engineer of the Lontin Light Electric Generator and Light Company, who by the aid of samples of the various forms of the lamp showed very clearly the progress made up to the present time. He explained that the first cost of the lamp was really less important than at first sight appeared, owing to the small number of electric lamps required for a given space and their durability, but to meet this popular objection efforts were still being made, and he hoped before long they would have a lamp in which the clockwork was entirely dispensed with, the result of which would be that even in first cost the Lontin would compare favourably with any lamp known. It is but nine months since the first practical application of the electric light for public illumination was initiated in London with the Lontin system at the Gaiety Theatre, and it has already, in spite of the indiscretion of over-sanguine projectors and the detraction of opponents, become admittedly a method of lighting which public bodies have to reckon with, being alone adapted, on the score of power, salubrity, cleanliness, and economy, under its present improved and improving conditions, to satisfy certain large special requirements. It is to meet these special wants that the above company has acquired the only complete system of lighting which now exists. In fact, without in any way depreciating the brilliant results obtained by other inventions, it may be fairly stated that, whilst one company deals with a machine of which the subdivision is limited, and another company with the utilisation of a burner or candle, each having its special feature and being dependent on others for the rest, this company holds not only the Lontin generator, but also the regulators, lamps, and methods of subdivision which enable it to supply from its own resources a complete and practical system of lighting which is neither disagreeable in colour nor painful to the eye.

It was claimed for the Lontin light that it has decided advantages over its rivals in steadiness, in divisibility, and in economy, the cost of the Lontin being 3d. as compared with 5d. for the next cheapest light. The illumination of the Aldersgate-street Station on Monday evening was brilliant in every part although but eight lamps were used to light the whole of the platforms. The lamps were on four circuits, and the currents were supplied from a Lontin generator producing alternate currents and making only 400 revolutions per minute. The motive-power was obtained from a Fowler's semi-portable compound engine, high pressure cylinder 9 in. diameter, and low pressure 16 in. diameter, with about a 14-in. stroke. The steam was used at 112 lbs. pressure on the square inch, and the engine was making about 130 revolutions per minute. From these data practical men can calculate approximately the number of indicated horse power used. It is intended with the same machinery to illuminate the Moorgate-street and Farringdon Stations also, which will be a severe and conclusive test of the efficiency of the system. It is stated that the light may be divided very greatly. As many as twelve lights have been placed in one circuit. It has been shown practically that by this machine it is possible to give a larger number of small lights; and so far as experience has hitherto gone, whatever loss there may be in illuminating power is much more than compensated by the convenience of so complete a distribution; however, curiously enough, up to a point which at present appears to be between four and six lights on a circuit, a positive gain is obtained by division. These experiments are not yet completed. A machine constructed nominally for twelve lights (which would mean twelve lights of 600 candle-power each), may be arranged to produce 48 lights, should the nature

of its application make such division desirable. The various patents which are the property of this company include special regulators and lamps, as well as special materials for cables and insulation, so that the whole apparatus necessary for the purposes of electric lighting used in this system is to a great extent peculiar to itself, and constructed under its own direction and control. The experiments on Monday evening were in every respect satisfactory, and promise much for the future of the light.

ATMOSPHERIC HAULAGE IN MINES.

At the Hottinguer shaft of the Epinau Collieries (Saône et Loire) a system of raising minerals, some time since patented by Mr. Archibald Alison, an old correspondent of the *Mining Journal*, has been introduced. The shaft is to be 3279 ft., of which about two-thirds has at present been sunk. The coal trams to the number of nine, are placed one above the other in a cage, which is provided at each end with a piston, working in a large tube reaching the whole depth of the shaft. The cage is raised or lowered by creating a partial vacuum or a plenum above the piston by means of a powerful air-pump. The arrangement consists of either a single tube, in which a cage alternately rises and descends, or of two tubes, coupled together, in one of which a train of empty trams descends while a full tram is being raised in the other. When two tubes are used the air pumped from that in which the full train is being lifted is delivered into the other, in which the empty train is descending, and in which there is already a partial vacuum, instead of into the atmosphere, and the weights of the trains thus balance each other, the net load of coal only having to be raised by the engine. The air of the mine, which fills the lower part of the tube as the train rises, is blown out to the surface through an escape pipe as it descends, and the ventilation is thus to some extent assisted.

The cage is retained in any position by stops worked from the outside, and is readily lowered or raised at the stations to bring any trains opposite to the doors, by admitting air over it, or by opening a communication between the tube above it and the exhausting engine. The cage is stopped without shock, at the ends of its travel by the cushion of air in the closed ends of the tube; and to admit of stopping at intermediate levels, as well as to guard against accidents, a sliding partition is fitted in the tube immediately below each station, except that at the bottom, which is open so long as the cage is below, but is closed when it has passed. The position of the cage, with its pistons, during the ascent or descent, is indicated in the engine-house by a series of barometers showing the pressure of air in the tube at points 100 meters (109 yards) apart. As the pressure below the cage is equal to that of the atmosphere, while a partial vacuum is maintained above it, the barometers show at once whether the cage is above or below the point at which each of them is connected to the tube. To allow the pistons attached to the cage to fit the tube, even where this is not cylindrical, as at the doors, one of them, that above it, is made double, consisting of two pistons spaced at a distance apart greater than the height of a door, but less than the length of tube between two doors. The pistons are packed with leather, and the tube is lubricated with water mixed with a little soap and oil. It is estimated that the consumption of coal for the boilers of the winding engine, in lifting from a depth of 1000 meters (1093.6 yards), would be 10 per cent. of the quantity raised if ropes were used, but will be only 3 per cent. by the pneumatic system, even with a single tube. This is a saving of 145 lbs. of coal per ton of coal lifted, equal to 6.6d. per ton, valuing the coal used for the boilers at 8s. per ton. With an output of 450 tons per day, and reckoning 280 working days in the year, this is equal to an economy of 3528l. per year, in boiler coal alone.

WROUGHT-IRON RAILWAY AXLES.—At the Society of Engineers, meeting, on Monday (Mr. R. P. Spice, president, in the chair), a paper was read by Mr. Thomas Andrews, "On the Strength of Wrought-Iron Railway Axles." In introducing the subject the author gave a brief historic sketch of the Wrothley Ironworks, Sheffield, at which works some of the first railway axles used at the commencement of the railway system were made, and, as an interesting fact, he mentioned that these works were supposed to have been established at the time of the Roman conquest. He then proceeded to enumerate a series of practical experiments which he had conducted with a view of showing the great resistance which the best fagotted scrap axles are capable of offering to sudden strains, and considered at some length the question of iron versus steel as a material for axles. The chief standard tests employed by railway companies and engineers were then given, and their relative merits pointed out. Then followed an account of a large number of experiments on axles manufactured by the author to comply with the various tests. These results tended to show that in some cases the deflection of the axles became less as the number of blows to which they were subjected increased, which it was thought might be due to the heavy blows having a tendency to alter the molecular structure of the iron, and render it more crystalline. From various other experiments which were given it was shown that the actual existing quality and real tensile endurance of an axle might be misjudged, and wrong conclusions formed as to its quality, by solely relying on a falling weight test. The author strongly advocated one uniform test for axles, and thought that in any correct process of axle testing the amount of testing force actually applied should be measurable, and bear some relative proportion to the greatest amount of shocks to which an axle was likely to be subjected in actual working, and suggested that it would be desirable to obtain by accurate experiments an approximate estimate of the work done by the axle in ordinary working, and to arrange some test which could be universally agreed upon.

MINERS' SAFETY LAMPS.—The invention of Mr. A. HOWAT, of Manchester, consists in admitting the air to support combustion through tubes or apertures in the lower part of the lamp or oil chamber, of such diameter and length as to prevent the flame passing out of the lamp. The upper portion of lamps of the usual construction is made of wire gauze through which the gas in some cases is driven, thus causing explosions. Now, he makes the upper portion of the lamps of a number of tubes or flues through which no flame can be forced, consequently when his improved lamp is used there is no danger of explosion.

SPONTANEOUS COMBUSTION OF COAL.—In compliance with an order of the House of Commons, the copy of a circular letter addressed by the Board of Trade to coalowners, shippers, and charterers, with regard to the character and number of casualties arising from the spontaneous combustion of coal, or from the explosion of coal gas on board ship, has been issued. It is accompanied with a *précis* of the replies received thereto, on which Mr. Gray, Assistant-Secretary to the Marine Department of the Board of Trade, has made the following comments:—The results of the foregoing clearly indicate that the simple and efficacious measures for preventing explosions recommended by the Royal Commissioners appointed to enquire into explosions and spontaneous combustion on board coal-laden ships are either insufficiently known to or recklessly disregarded by the persons chiefly interested in the safe carriage of coal by sea. A copy of the conclusions arrived at by the Royal Commissioners is, therefore, appended:—1. That certain descriptions of coal are intrinsically dangerous for shipment on long voyages.—2. That the breakage of coal in its transport from the pit to the ship's hold, the shipment of pyritic coal in a wet condition, and especially ventilation through the body of coal cargoes, conduce to spontaneous combustion, even though the coal may not be unfit for conveyance on long voyages.—3. That spontaneous combustion in coal cargoes would be less frequent if regard were had by shipowners and underwriters to these facts.—4. That when coal is being carried on long voyages, the temperature in the various portions of the cargo should be tested periodically by thermometer and registered in the log.—5. That with a view to guard against explosion, free and continuous egress to the open air, independently of the hatchways, should be provided for the explosive gases by means of a system of surface ventilation which would be effective in all circumstances of weather.—6. That in order to make known the descriptions of coal liable to combustion, the Inspectors of mines should be instructed to hold enquiry into all cases of spon-

aneous combustion occurring in cargoes of coal taken from their respective districts, exporters being required always to record on their specifications the denomination of the coals forming the cargo.—7. That no additional legislation with reference to the conveyance of coal by sea is required, unless for the purpose of giving effect to our proposals with regard to the enquiries by Inspectors of Mines, and to the fuller specification of coal entered outwards at Her Majesty's Customs.

SOUND INVESTMENTS.

After a long and unprecedented time of depression the Stock Markets exhibit a decided tendency to revival. It is thought by some that this advance in values is unjustifiable, but I do not share this opinion. It must be remembered that for nearly two years there has been a total want of confidence, those who had surplus funds preferring to allow them to remain idle rather than employ them in the purchase of any securities outside the range of consols, debentures, &c. As during this period no new outlets for the employment of capital have been created, it is not surprising that the effect of purchases upon stocks and shares long neglected, but intrinsically sound, is all the more marked.

CANADIAN RAILWAYS—THE GREAT WESTERN OF CANADA.—The meeting of shareholders held last week was unusually interesting. A special report had been issued by the directors in which it was set forth that it was absolutely necessary they should have the full confidence of their proprietors, and they made an appeal for proxies in support of their views, basing their principal claim thereon upon a speech delivered by the Right Hon. Hugh C. E. Childers, M.P. (the late President) in 1876, denouncing as suicidal any fusion or working agreement with the Grand Trunk Company.

To the astonishment of everyone at the meeting (the board included) the late President told the proprietors that the views he had expressed in 1876 had undergone a complete change in 1879. On such an expression of opinion from so great an authority, it was quite clear the directors would have been totally outvoted by all those who listened to this interesting conversion, as the board could not have dared to use the proxies of absent shareholders which had been mainly given on the faith of a speech delivered by Mr. Childers, who then publicly announced that he had changed his views.

With strange inconsistency, however, he denounced any "agitation" in opposition to the board with whose policy he had previously confessed, as an "honourable man," he was bound to differ. For the present, therefore, the directors are presumed to have the confidence of their shareholders, and nothing further can be done until the return from Canada of the three members of the board, when the financial position of the company, together with the proposed new alliances, will be made known. There is no doubt that with the general improvement in the affairs of the shareholders have valuable property, which, if administered by men of ability and foresight, would grow into one of exceptional value.

GRAND TRUNK RAILWAY OF CANADA.—The position of this company presents a marked contrast to that of the Great Western of Canada, for while the Great Western is dependent upon the spasmodic and uncertain favours of American lines, the Grand Trunk directors have boldly secured their own independent access to Chicago.

Within the next few weeks the Grand Trunk will be in a better money-earning position than it has been since it was first established. Investors must bear in mind that Canada is now attracting a large amount of attention in this country, and from the Prime Minister downwards all refer to the Dominion as a veritable "Land of Promise." The development of Canada, which is now so apparent, must necessarily advance considerably the value of its railways, and a parallel for this is to be found in the case of American companies, which have been so largely benefited by the increased prosperity of the United States. Unfortunately this improvement has not been enjoyed by investors on this side, as their patience having previously become exhausted they on the first dawn of an improvement parted with their securities to American buyers, who have been rewarded with enormous gains. I would warn holders of Grand Trunk property not to fall into a similar error, but would rather advise those who bought their stocks at higher prices to double their interest at quotations now current.

In 1873, when Canadian prospects were much less brilliant than they are now, and when it seemed hopeless to dream of the Grand Trunk Company securing and access whatever to Chicago, the following were the prices of the securities:—

	In 1873.	Now.
Grand Trunk Debentures	93	87
Ditto 1st preference	78	54
Ditto 2nd preference	72	52
Ditto 3rd preference	46	16
Ditto Ordinary	28½	9

These figures show that there is a handsome margin of profit for those who can buy now and hold.

There are three separate classes of investors (distinct from speculators) to whom these securities will be specially attractive at the present moment, viz.:

1.—Those to whom income is absolutely essential, who may, therefore, safely purchase the Five per Cent. Debentures at 87 with three months' dividend accrued, payable in January, yielding at the present price 5½ per cent.

2.—Those who can afford to buy the three Preference Stocks with the certainty of receiving a good dividend on the First Preference in the spring of next year, and which will be so much in advance of recent years as to raise the value of the Second and Third Preferences.

3.—To the third class of investor the Ordinary Stock will be attractive. It is a "speculation" pure and simple; but when it is remembered that the price of 100l. Stock is 94l., 1000l. Stock 90l., and that 10,000l. nominal Stock can be purchased for 900l., there is a large margin for an increase in capital value, as the Ordinary Stock must advance concurrently with the rise in the Preferences. In 1873, 7,500,000l. of this very Stock was issued at 22l. 10s., and at that time the prospects of the line were nothing like so good as they are to-day. The whole of this money was expended in narrow gauging and relaying the line with steel rails, and also in the purchase of additional rolling-stock. To this far-sighted policy the present good position and increased earning capacity of the road is mainly due.

It may be urged that the reversionary value of the Grand Trunk Railway, as represented by the ordinary stock, is undefinable, but it is only last year that the shares of that mysterious Erie Railway were at the same quotation as Grand Trunk ordinary stock is now, and yet they are to-day worth 42. The Grand Trunk Company does not publish properly audited and intelligible balance-sheets, which serve as a guide for estimating the value of the property, whereas the Erie Railway does not.

An impression has for some time prevailed that the liquidators of the City of Glasgow Bank, and the failed firms in connection therewith, were large holders of Grand Trunk securities, and were waiting for an opportunity to realise. I am in a position to state positively that this is not the case, all such holdings having long since been disposed of and absorbed by a large number of bona fide investors.

I have very little doubt that before the close of this year all Grand Trunk securities will exhibit a considerable advance upon present prices, as, in addition to the favourable features above enumerated, I am pleased to be able to state that there is a prospect of improvement in rates almost immediately, as a commission organised by the great American railways is now engaged in discussing the question.

LONDON, CHATHAM, AND DOVER RAILWAY.—In order to account for some large purchases of the stocks of this railway during the past month, this absurd rumour was revived that it was in contemplation to apply to Parliament for power to construct a line from Beckenham to Brighton. This is an old device which has done duty on previous occasions in order to depress the quotations for Beckenham stocks when they have shown a tendency to advance. By this time it ought to be well known that the three southern lines are bound by mutual agreements not to enter into any new competitive schemes. The fact is the buying of Chatham and Dover stocks continues to be of a bona fide and non-speculative character being based upon the merits of the line, which may be summarised as follows:—The wonderful development of the suburban traffic which will be further increased on the widening of the line to Bickley, the growing popularity of the Flushing route evinced by the fact that the Dutch Government have ordered a new steamer for the service, the marked success of the "Calais and Dover" prospect of the opening of the Deal and Dover line in the spring, and the fact that after this month the traffic receipts will compare with the period when the Paris Exhibition was closed. It is also remembered that for the first time in the history of this company the preference dividend will be paid half-yearly in February next.

TRAMWAYS.—A change for the better seems to be dawning upon the tramway market, and, as is generally the case, the shares of the large companies are the first to move. Thus North Metropolitan, Liverpool, and Dublin shares have been freely bought, and, in my opinion, there is ample justification for the improvement. The advance recorded will, no doubt, stimulate buying of the smaller shares, which as yet have not shown much animation. During the holiday period, when the markets were very stagnant, the passing of the Bill authorising the use of steam did not receive much notice, and the prospective advantages certain to accrue were, therefore, overlooked. The working of the Paris tramways by the Tramways Traction Company has now actually commenced, and it is only a question of time for English companies to adopt the same system, and thus effect large savings in working expenses to the enhancement of dividends. The prospect of this will, no doubt, increase the value of all tramway property, and, therefore, purchases should not be delayed.

LIVERPOOL TRAMWAYS.—As I always regard it a duty to carefully watch the progress of any company the shares of which I may have recommended for investment, I felt a special obligation to the proprietors of this company, as being the first tramway with which I was intimately associated, to address them during the past month at a moment when rumours were industriously circulated that a crisis in their affairs was imminent. The circular was evidently opportune, as it had the effect of checking further sacrifice of property by timid holders who were ignorant of the true circumstances of the case. A meeting has been called for the 21st inst., which I shall certainly attend, as it is just possible important business may be transacted at it, and as representing some large interests I shall, if I find it necessary, invite the shareholders to favour me with their proxies, and they may rest assured I shall only support that policy which will be for the best interests of the company.

TRAMWAYS AND GENERAL WORKS COMPANY.—The managing director of this prosperous undertaking has just returned from Bordeaux, having made the necessary preliminary agreement for taking over the whole of the property of the Omnibus Company. Under the concession which has been secured direct from the municipality, the exclusive right is given to work tramways and omnibuses in Bordeaux, which is the second city in France. With that foresight and business capacity which has always distinguished the directors of this company, they decided to call in the services of Mr. A. G. Church, the managing director of the London General Omnibus Company, and with such a skilled adviser it need not be a matter of surprise that the purchase has been expeditiously effected.

In the course of the next few months the Tramways and General Works Company will have some good things to offer to investors; first in the Tramways Company of Italy, the works in connection with which are so rapidly approaching completion that the shares will no doubt be ready for issue in the course of next month. Before the close of the year the Bordeaux Tramways will be sufficiently advanced to invite the subscriptions of the public. These undertakings

will, in my opinion, develop into high class investments. I have visited both districts, and have confidence in recommending investments in the shares of the respective companies. The Tramways and General Works Company will first consider their own shareholders who are registered on their books at the time of issue, so that they will participate not only in the profit derived from these important works, but also in the allotment of shares, for which there is likely to be an active local demand, the French and Italians being keenly alive at the present time to this class of investment. The shares of the Tramways and General Works pay 7s. 10d. per cent. to present investors, and are, therefore, well worth buying.

MEXICAN RAILWAY.—This company has been steadily improving during the past two or three years in sympathy with the more settled state of the country. The ordinary shares (20s. each, fully paid) at the present quotation of 24. 10s. (equal to 12½. 10s. for 100s. stock) are well worthy of attention. I hope to be in a position to give more detailed information as to the position and prospects of this railway in my next circular, meanwhile a judicious selection of the securities will prove remunerative.

VARNA RAILWAY.—The omission to mention this railway in my last circular called forth some comment, having previously recommended the purchase of the obligations at 5½. Holders may rest assured I had good reasons for my silence, as I did not consider it politic to refer to the subject as the negotiation had reached a special stage when it would be unwise to do so. My advice to those who bought at cheap prices is not to be tempted by the present advanced quotations for securing a profit.

—From Mr. Wm. Abbott's Circular for October, 10, Tokenhouse-yard, London.

Meetings of Public Companies.

DERWENT LEAD MINING AND SMELTING COMPANY.

The ordinary general meeting of shareholders was held at the offices of the company, Austinfrans, on Wednesday, Mr. WILLIAM EDWARDS in the chair.

Mr. J. H. A. SMITH (the secretary) read the notice calling the meeting; the report of the directors and also the agent's report and the accounts, which had been circulated amongst the shareholders, were taken as read.

The CHAIRMAN said: Gentlemen, I will say a few words upon the affairs of the company, and also make some remarks upon what is stated in the report. In the first place, I may say that, like all other lead mining companies, this company has suffered most materially from several causes. First of all there was an accident (which is named in the report), which happened to the mine some time in the early part of the present year, causing great loss of time and also loss of money to the company. It was a matter which caused both the manager, Mr. Morpeth, and the directors a great deal of anxiety, for it happened at a time when we were looking forward to an important epoch in the history of the company—the meeting of the two points which we have been so anxious to accomplish in the 93. At the very time that we thought we were accomplishing a very desirable and very great piece of work this accident happened in the shaft, which caused the water to rise, and we had to repair the shaft and also get the water out, which took three months to accomplish, and during that time the operations were almost at a standstill, thereby causing great loss of time and money to the company. I am glad to say that that is entirely repaired now, and the mine is in a better position than at any time during the existence of the present proprietary. The report of Captain Morpeth to the effect that the returns are increased by something like 50 per cent. is a very satisfactory point in our calculations, and will, I have no doubt if lead maintains anything like a proportional and reasonable price, add very much to the benefit of this company—in fact, unless lead realises a fair price it will be almost in vain on the part of the directors to make this concern what they would wish it to be—a paying concern for them, and one which would be remunerative to the investors of the capital in the undertaking. There is one very important matter which the directors will have to decide to-day. It is the suggestion of the directors to borrow a sum of money to complete the purchase of the freehold of the mines on this estate. It is considered that it will be a very great advantage to the company to carry out this proposition, which is part and parcel of the arrangement with the original shareholders—that the freehold of the mine shall be purchased, thereby reducing the rent charge by about 400 a year. It will be a very important matter, because it will enable the company untrammelled with payments which almost every other company in existence has to bear. I think we may congratulate ourselves upon the prospect of better times, and if these better times come we are confident we may look forward to still making this a paying company. It must not be forgotten that in this very extensive area which we possess there are something like 800 fms. of virgin ground which has never been developed, and if the money is raised in the manner about to be proposed we intend to develop that, and we look forward to good results in that direction. There is a shaft already down on the spot, and some machinery erected; but it must be very much improved and augmented before the thing can be carried out; but I assure you that the directors will do their utmost to develop that thing, and carry out the duties which devolve upon them with all the energy they possess. I thank you for the honour you have done me in allowing me to retain my seat as Chairman of this company, and I will do my best, with the other directors, to forward your interests. (Hear, hear.) I beg to move that the directors' and agent's reports be received and passed.—Mr. YORKE seconded the resolution.

Mr. BURLS said there was about 40000. due in calls, and asked why the directors did not use that amount before they borrowed money?—The CHAIRMAN said a considerable portion of that was still outstanding.

The SECRETARY: And even with that we should not have sufficient to buy the freehold and also open the mine properly.

Mr. BURLS said it would be sufficient to carry on the mine for some time.

The SECRETARY said that about 10000. of the amount had been paid in since the report was issued.

Mr. A. KELLY (solicitor) said there was further large amount which he expected to get in soon, which would reduce the amount due on calls to a minimum.

The resolution was then put and carried.

Mr. BURLS proposed the re-election of Mr. S. W. Daukes as a director, and said he believed that gentleman was well qualified to fill the post of a director of the company.—Mr. HALE seconded the resolution.

The CHAIRMAN said Mr. Daukes was a most conscientious man, and there was no one who wished the company greater success. He had had the pleasure of serving for two or three years on this board with Mr. Daukes, and had found him a man of energy, and not only of energy but had also thrown material help into the company, as he did into every company in which he took an interest.

The resolution was put and carried.

On the motion of Mr. FISHER, seconded by Mr. HALE, the auditors (Messrs. Brandt, Stansfield, and Co.) were re-elected.

The meeting then proceeded to consider a resolution "to authorise the directors to borrow a sum not exceeding 10,000. upon debentures payable at the end of three years, carrying interest in the meantime at and after the rate of 6 per cent. per annum, or such other rate as may be determined, payable half-yearly, the holders to have the option of taking forfeited shares (4s. fully paid) at 3s. each in payment. To be secured by a deed assigning the freehold and leasehold property, plant, machinery, and other effects of the company to trustees for the debenture-holders. The mode of issue, form of deed, and other details to be left at the discretion of the directors."

The CHAIRMAN said that in his opening remarks he explained the why and wherefore of the company finding it desirable to borrow this money. He repeated that this would be a very great saving to the company if they possessed the freehold of the mine. He might mention that the time for purchasing the freehold would expire very shortly, probably within the next three months; but probably they might acquire a little extension of that time if necessary. The shareholders would see at once the desirability of completing the purchase as soon as possible. He would mention that there had been no controversy amongst others the failure of a large company which kept a considerable sum of money out of the hands of the directors—rendered it necessary to borrow the money. In conclusion, the Chairman moved a resolution authorising the directors to borrow 10,000. upon debentures, in accordance with the terms mentioned in the notice calling the meeting.—Mr. S. W. DAUKES seconded the resolution.

Mr. KELLY said that he would, not as solicitor (although he did it in the character also), but as a large shareholder, make a few remarks with respect to the proposed loan. All that Capt. Morpeth had ever stated about the mine had been found substantially correct; therefore, as a shareholder, he was not at all disappointed, looking at the state made had been in for the last three or four years, with the way in which matters stood at present. Practically it came to this; he understood from Mr. Morpeth that the ground opened up would take something like two years to exhaust, and during the whole of that time, supposing the price of lead did not increase beyond the present rate, the mine would pay working expenses. He thought that was a very hopeful state of things, considering that lead had been down to a price as low as it could possibly reach, and it was now improving, and there was every prospect that it would improve to a very great extent; he thought there was every prospect that one which should cause them any great amount of anxiety, and it would also make it desirable that they should place themselves in a stronger position by purchasing the freehold of the minerals. It appeared from the accounts that there were about 3000 shares which had been forfeited. He did not see any reason whatever, assuming that no mishap occurred (which they had no reason to expect), why those shares should not go up, so as to be saleable in the market at 2s., or probably 3s. per share; in that case the 3000 unallotted shares would yield 6000. at 2s. per share, and if they went to 3s. per share (and he did not see any reason why they should not) there would be sufficient sum to cover the amount which they would have to pay for the freehold—8000. Beyond the shares, which of course represented 12,000. gross, they had owing to them, in the shape of calls, something like 3300. and they might take it that all, or very nearly all, of that was good, and would be recovered. The advantage of having the freehold would be manifest to all. In the first place the company would be relieved of 400. a year dead rental, which they were now paying, and they would also be relieved of the royalties; in fact, the shareholders would then have the thing practically in their own hands, and they would have no landlord to quarrel with them, which was a great thing. Besides that they would give as security for the money proposed to be raised on debentures not only the freehold, but also the plant and machinery, for which they paid 12,000., so that there was 20,000. to secure the 10,000. proposed to be borrowed. Then there was the element of speculation in it, which was always a very cheerful one for Englishmen; they would have the opportunity of exchanging the debentures for the shares at a discount of 1s., taking them at 3s. He thought the shareholders would find it not only a fair and good speculation to take up these debentures, and they would have reasonable security for the money. He hoped that for the sake of all concerned the debentures would be taken, and then, from what he could see of the present outlook, he believed that at the next general meeting they would be able to congratulate each other upon having a property which would pay them a very fair remuneration for the money invested. He did not think they would

require all the 10,000., as probably 8000. would be ample, but he hoped it would be raised in the way suggested in the notice which had been circulated.

The resolution was then put and carried unanimously.

The CHAIRMAN said he might mention that the directors, and the secretary especially, had paid frequent visits to the mine, so that everything had been well looked after.

The SECRETARY said it might be interesting to the shareholders to know that at the last month's sale there was an increase in the price equal to 5 per cent., and the mine was now paying costs. The low price of lead had prevented a large number of points from being worked which would otherwise have been in operation.

Mr. DAUKES also pointed out that independent of the low price of lead the season had been most unfavourable, and rendered it extremely difficult to get the coals up to the mine.

Mr. KELLY said he had recently seen Mr. John Taylor, of the firm of Messrs. John Taylor and Sons, who was many years connected with the mines. Mr. Taylor had now 10000. in the company, and stated that his faith in it was as great now as ever it was, and believed it to be a very fine property, and one which would prove remunerative. Mr. Taylor seemed pleased with what had been done, and with the prospects of the mine, and had offered to go down if required, and report to the directors.

The CHAIRMAN might mention that at the board meeting just held the directors had decided to request Mr. Taylor to go down and inspect and report upon the mine. Before the meeting separated he wished to propose a cordial vote of thanks to their excellent secretary, who had been down to the mine in the worst of weather, and had shown himself most indefatigable in his endeavours to forward in every way the welfare of the company. He hoped it would be a long time before they lost the services of Mr. Smith, and he could only say that if the mine became a success, which he hoped and believed it would, it would be very much owing to the value of the services rendered by Mr. Smith.

Mr. HALE seconded the resolution, and said he fully endorsed all the Chairman had said regarding the value of the services rendered by the secretary.

The resolution was put and carried.

The CHAIRMAN then proposed a vote of thanks to their excellent manager—Capt. Morpeth—who had the interest of the company so much at heart. Since he had been Chairman of the company he had gone down every year to the mine, and had always found Capt. Morpeth anxious to promote the interests of the company in every possible way. Capt. Morpeth was a thoroughly practical and trustworthy man; and not only was he known and esteemed in connection with this company, but was well known and highly respected in the neighbourhood of Derwent and Blithfield.

Mr. DAUKES seconded the resolution.

Mr. KELLY, in supporting the resolution, said that all Capt. Morpeth's statements about what he was going to do had been substantially fulfilled and carried out.—The resolution was put and carried.

Capt. MORPETH acknowledged the vote, and said that it had been his pleasure and ambition since he had been manager to carry out the instructions of the board to the best of his ability, and he could assure the shareholders that in the directors they had a body of gentlemen who looked to the affairs of the mine with the greatest minuteness. He hoped by-and-by that Derwent would come out as a mine.

After a cordial vote of thanks to the Chairman and directors the meeting broke up.

CARN BREA MINING COMPANY.

A four-monthly meeting of shareholders was held at the mine on Monday, under the presidency of Captain TEAGUE (the purser and manager), who expressed the pleasure it afforded him to meet the adventurers that day under improved circumstances, not that the mine had done much, but because there was a prospect of tin still further advancing in price. The accounts for the four months meeting that the balance now against the adventurers stands at 12,516. 3s. 1d., instead of 19,233. 7s. at the last meeting.

Capt. W. TEAGUE, jun., next read the agents' report, which stated that the eastern part of the mine was improving, two of the points in that direction being valued at 60s. per fathom each, and two or three others at from 25s. to 35s. per fathom each. The bottom part of the mine, about Teague's shaft opens up well.

Mr. HEARD asked whether any provision had been made in regard to the banker's balance, to which the CHAIRMAN replied in the negative.—Mr. HEARD then suggested that at the next meeting the Chairman might see the propriety of making a small call to reduce the balance against the adventurers.

The CHAIRMAN said he did not object to doing this, but he intimated that he would see how the stock of the mine stood. The increased price of tin would, no doubt, considerably assist them, and it might not be necessary to make a call under those circumstances.

Mr. HINGSTON, of Liskeard, wanted to know whether the Chairman thought the mine was likely to come to their assistance in paying off the debt against them, and the CHAIRMAN replied that his own conviction was—and he should be very much deceived if he were not correct—that instead of a profit of something over 5000., they would make a profit of over 10000. between this and the next meeting. It might be 20000.; he could not tell. He thought, therefore, with that prospect before them that it would be premature to make a call.

The CHAIRMAN then proposed the adoption of the accounts and agents' report, and proposed that a moiety of the banking account be removed to the Cornish Bank Company (Limited), and the resolutions were carried unanimously.

Mr. HEARD observed that he thought the adventurers had cause to congratulate themselves that the accounts of the mine were kept as straight as they possibly could be. He believed the right principle had been adopted there,—that every farthing had been charged that could be. (Applause.)

The CHAIRMAN stated that he had a little information to impart to the shareholders which would interest them. The Dutch Finance Minister had stated that in consequence of a falling-off in the amount of Banca tin, the amount sold in 1880 would be 60,000 piculs—say, 120,000 slabs in six sales as usual. The five sales this year had made 112,600 slabs, and if the sixth sale was 22,000 to 23,000, it would make a total of 135,000 slabs, so that the falling-off would be about 15,000 slabs, or from about 450 to 500 tons.

The CHAIRMAN remarked that at the last meeting he intimated that one of the stamps was out of order, and since then it had been idle for nearly three weeks, or they would have had a much better account than they had that day. They would be able to do better than that. With regard to the recent arbitration case between the Beaumont Drill Company and the mine, he mentioned that the Beaumont Company claimed over 3000s. from the mine, and the mine claimed over 2000s. from the Beaumont Drill Company, and the Judge saw through the whole affair pretty clearly. The result of the award was that the Judge gave them 1s. each—(laughter)—and the Beaumont Drill Company had to pay the out-of-pocket expenses of those who attended in London on behalf of the mine. The award would not increase their dividend very much, but it was a credit on the right side. Their other expenses were less than 500.

In reply to Mr. HINGSTON, the CHAIRMAN said the mine on the whole, was not such a position as it was some time back. If he were to say a thousand words he could not put in better form all that he really meant about the mine. (Applause.)

TINCROFT MINING COMPANY.

A four-monthly meeting of adventurers was held at the mine on Monday, Captain TEAGUE presiding. The accounts for the sixteen weeks showed that the balance now against the adventurers is 6730s. instead of 9020s. as at the last meeting.

The CHAIRMAN remarked that, with regard to the small profit (2661. 15s. 10d.) shown that day, they had unfortunately had a very bad "crush" in the mine—so much so that the best of their stopes had not been worked for over six weeks. Moreover, there was more than 1000. charged in the merchants' bills than was usual. A large number of men had been engaged in securing the "crush," so there was fair reason to expect that the profit shown at their next meeting would be considerably in excess of the profit of the past four months. He had calculated that the profit this time would have been about 15000., but he consoled himself with the thought that the tin was still underground, and it was better to cry over it than to weep after it. (Laughter.)

Mr. HINGSTON, in proposing a vote of thanks to Capt. Teague and the agents, said it would be a pity to part without a word of encouragement to those gentlemen. He had been in that mine in palmy days and in times of depression, and he trusted they had once more entered upon a course that would relieve them from a great amount of anxiety. He thought the greatest amount of anxiety had fallen upon Capt. Teague in connection with the mines and the mine accounts, and he was glad for his sake that they were pulling through as well as they were. One important thing in connection with improving trade was that all the metals were improving, and there seemed to be such a revival of trade as was not likely to be transient, and he trusted that the advances they had had in the metal market were but an instalment of what they had to come. He remembered when tin was going down in price it was said that tin could not be produced at 50s. a ton, but that was an illusion that had been dispersed by adversity, and he supposed that when they got out of it they would not be altogether the losers. They were indebted to Capt. Teague for the economy he exercised in the working of the mine up to the present time. He supposed there was not a much more abused man than Capt. Teague. He, however, had never joined in that abuse, for he had always found him straight and honourable in his business transactions, and he always said as whenever he heard Capt. Teague run down. He thought they ought to give him a word of encouragement, and he begged to propose that a cordial, hearty, and sincere vote of thanks be given to Capt. Teague and those united with him in the management of the mine, and he trusted they would be rewarded with great success in the future. (Loud applause.)

Capt. CLEMES seconded, and observed that he was sure they would all agree with him that the management deserved it. He trusted it would result in the welfare of all concerned.

Mr. HEARD, on behalf of the Carn Brea adventurers, said they felt equally indebted to Capt. Teague for the manner in which he had dragged them through the depression. (Applause.) They felt there was a silver lining to the dark cloud, and that better times were in store for them. He heartily joined in the vote of thanks to the management for the way in which they had bestirred themselves in bringing about economy combined with efficiency.

The CHAIRMAN, in reply, said he was not above receiving money when it was fairly earned, and he might say that he was just as well pleased with the remarks made and the confidence reposed in him, as if they had declared a small dividend. Referring to the subject of calls, he remarked that calls had been made, but it was to save their pockets equally with his own that the evil day was stayed off. No one but himself knew the anxiety that he felt—the amount of money he had had to guarantee, and not only to guarantee, but to raise, in order to save off those things. They would gather, therefore, that everything had not been nice and smooth. He had been connected with that mine for a very long time, and he hoped to be connected with it to the end. He could challenge anybody and everybody to say that he had unduly taken advantage of the market or of the mine. He had not done it directly or indirectly. He had done everything above board. He had not trafficked in shares. If persons had been dissatisfied and offered their shares he took them, but not before they had been thrust upon him. There were more people ruined by market buyers than by steady adventurers. With regard to the price of tin, it had almost been ruinous, and the mystery to him was how the mines had done so well as they had. But for the mines having turned

out good, and coming to the assistance of the adventurers, they would have been in a far worse position than they were that day. He did not think established mines ever looked better than now, and it was true that all through the depression they had turned out in a wonderful manner. They could not do much worse, and must do a great deal better. Any promises he had made had generally been realised. He had never misled them; he was not a prophet; he did make mistakes, but he was responsible for the utterances he made. They would do better in Tincroft for the next four months than they had in the past six months. Their balance was a very small one indeed, and had it not been for the accident in the mine they would have been in a better position than that day. Speaking on the revival of trade, Capt. Teague said they were not raising so much tin in Cornwall as formerly. There was something like 800 tons up to the present time short of what there was in the corresponding period last year, so that the falling off was considerable. In conclusion, he thanked the gentlemen who proposed the vote of thanks, and expressed the hope that they would meet next time under more favourable auspices.

EAST POOL MINING COMPANY.

A three-monthly meeting of adventurers was held at the mine on Tuesday. Mr. R. R. BROAD (the Chairman) said it gave him great satisfaction to meet the adventurers that day for several reasons, the principal one being the advantageous position of the mine. Another was that they intended to pay a dividend which was considerably above any they had paid, even when tin was at its highest price. (Applause.) The report was a most satisfactory one, showing, as it did, the great value of their property, which never looked better than at present. The accounts were charged up to the end of August. They had not sold a pennyworth of tin in the stone—nothing but tin ore.

Mr. MARTY (the purser) read the accounts, which showed a profit on the 12 weeks working of 3440s. 5s. 7d., to which must be added the balance from last account of 442s. 9s. 8d., making a total of 3882s. 15s. 3d. to be dealt with at the meeting. The committee proposed to charge all merchants' bills, &c., up to the end of August, which amounted to 259s. 2s. 7d., and to declare a dividend of 9s. per share, which would leave a balance in hand of 437. 12s. 8d.

The CHAIRMAN proposed the adoption of the accounts and agents' report, which was seconded by Mr. G. A. MICHELL, and carried unanimously.

The CHAIRMAN proposed a vote of thanks to the agents for the energetic manner in which they had carried out their duties during the past 12 weeks, which was carried with applause.—Capt. MAYNARD, in returning thanks, remarked that he did not know of anything beyond what was stated in the report, which was truthful in every particular. His opinion was that it was going to continue for a very long time, and he thought it was looking as well as ever it looked.

Capt. BISHOP also thanked the adventurers for the vote of thanks, and observed that the mine never looked better than now.

Capt. A. T. JAMES asked the purser whether they had sold so much tin as they had sampled, and Mr. MARTY replied that they sent to the stamps for the last 12 weeks 246 tons 4 cwt 2 qrs. 12 lbs. of tin, and had sold from the stamps during that period 249 tons 3 cwt 3 qrs. 25 lbs., being a surplus of 2 tons 14 cwt 1 qr. 14 lbs. He could not account for the difference.

After one or two minor matters had been disposed of, the meeting separated.

SOUTH CROFTY.—A special meeting of shareholders was held on Tuesday, under the presidency of Mr. H. J. Lean (the purser). The shares which were under consideration at the last meeting were forfeited. The shares were increased to 2043. Capt. Thomas reported that the lode in the 205 was still looking very well, and worth fully 25s. a fathom. A new boring-machine, which was ordered at the last meeting, has been put to work, and was making good progress. In the 160 they were not doing anything at present. Mr. Rodd said there had been a statement circulated to the effect that there had been an encroachment on East Pool by South Crofty, but this Capt. Thomas denied, and said they had been working on a large scale map Mr. Henderson made for some years ago, and he was quite satisfied that they had not gone beyond their boundary. Even supposing they had gone 8 or 9 ft., the workings there were exceedingly small, and they did not encroach anything like East Pool did on South Crofty some years ago, which they settled privately. On the motion of Mr. Rodd, the salary of Capt. Pascoe was increased two guineas a month, as was also the purser's salary, and Capt. Thomas's was increased two-and-a-half guineas a month.

ALAMILLOS COMPANY.

The meeting of shareholders will be held on Thursday, when the following report from the directors will be read:—

It is with some satisfaction that the directors are able to report that a profit has resulted on the company's operations for the past half-year. The amount, although small (276s. 14s. 9d.) is so far encouraging that it indicates the power of the mines to produce ores without loss, even at the extremely low prices for lead which have lately been ruling, and seeing that a loss of 541s. 14s. 8d. was sustained on the previous six months working there is every reason to believe that with a moderate rise in the price of lead satisfactory profits will again be made.

The company's mining prospects are more encouraging than they have been for some time past. Since the last general meeting the lode has been intersected at the 115, the deepest point reached, and the lode is found to be more productive and of a better character there than it was at the 100, although it may be remembered that at the 100 the lode was better than at the 85. It would thus appear that the influence of the slide which so greatly affected the lode in the principal part of the mines at the 60, 70, and 85 is passing away, thereby giving promise that as increased depths are reached the lode may become as productive as when it was first worked from Magdalena shaft.

The raisings of ore during the half-year have averaged 199 tons per month, and the reserves are still estimated at 2500 tons. The smelting of the ore, the carriage of lead to the ports, and the shipments have been conducted with the usual regularity, and the company's produce has been brought to England always ready for sale. Prices of lead have ranged very low during the past six months, the advance which occurred in March not having been sustained. There was an improved demand for lead during the month of August, leading to higher quotations, and these are still maintained.

The profit now shown of 276s. 14s. 9d. reduces the debit balance of the profit and loss account to 206s. 0s. 9d., and the directors hope that in six months hence this adverse balance will have entirely disappeared, and that the payment of dividends may soon be resumed.

FORTUNA COMPANY.

The meeting of shareholders will be held on Thursday, when the following report from the directors will be read:—

The directors congratulate the shareholders on the fact that the company's operations have been carried on with some profit, at a period when a lower average price has ruled for lead than at any time since the formation of the company. This result is the more satisfactory as the mines at the present time are capable of producing as large a quantity of ore monthly as for many years past. The greatest economy compatible with the efficient working of the mines and maintenance of plant has continued to be exercised. The raisings during the past half-year have averaged 354 tons of lead ore per month, and the levels both at Canada Inceos and Salidos are still productive at the greatest depths yet reached. The estimated reserves of ore continue at 8500 tons.

In accordance with the resolution passed at the last general meeting, the sum of 5000s. has been set apart out of the reserve fund for the purchase and working of new mines in Spain. The directors have now to report that they have already secured two mining properties in the vicinity of the company's mines, which they believe to be very valuable. The purchase-money will amount to about 13000. Operations have been commenced in one of these mines, and will be vigorously proceeded with.

There is no feature of interest to dwell upon in regard to the smelting operations or the transport; both continue to be carried on with regularity. There has lately been some activity in the lead market, in common with that for other metals, and should trade revive a further advance may reasonably be looked for. The profit for the past six months has amounted to 1801s. 0s. 2d., being slightly better than for the previous half-year. The audited accounts show that the balance standing to the credit of the profit and loss account on June 30 last amounted to 2065s. 18s. 7d.; out of this a dividend of 1s. 6d. per share has been declared, payable on Oct. 4 = 1875s.; placed to reserve fund, 92s. 15s.; total, 1968s. 15s., the balance to be carried to the next account being 97s. 3s. 7d.

LINARES LEAD MINING COMPANY.

The meeting of shareholders will be held on Thursday, when the following report from the directors will be read:—

The progress of the company's operations in Spain during the past half-year has been of a very satisfactory character, and the directors have more than ordinary pleasure in referring the shareholders to the superintendent's and mining agent's report which accompanies this, as it shows that the lodes have opened out remarkably well during the past six months, and that they maintain their productivity at the deepest levels which have been reached at the present moment.

Seeing that the price of lead continued so low, the directors considered that the most judicious course to adopt was to limit the extraction of ore, to curtail expenses in every practicable way, and to devote their attention rather to the opening out of further reserves for future working, than bring any large quantity of lead to market during the continuance of such low prices.

This policy has been successful, inasmuch as the reserves of ore available for future extraction have been increased by 450 tons, bringing up the total reserves to 4150 tons, and notwithstanding the low price at which the ore raised has been sold in the form of pig-lead, a profit of 1588s. 12s. 11d. is shown on the half-year's working.

Since the last general meeting the lode at Peill's shaft has been intersected at the 135 fm. level, and found to be productive—indeed, from its appearance it bids fair to rival in richness the lode in the 120 fm. level; there is thus no indication of a falling-off in the yield of the lode as greater depths are reached.

At the Quinteros Mine some improvements in the productiveness of the lode have recently occurred, and the future prospects of the mine are encouraging. This mine continues to be inexpensively worked, and to yield ore in paying quantities.

The smelting of ore has been well and economically conducted during the half-year, and the works are maintained in a state of efficiency.

In their last report the directors announced that the price of lead had risen to the extent of "about 2s. per ton above the lowest point touched." This advance, however, was not of long continuance, prices having declined in May and June to nearly their former level. There was again an upward movement in the market in August, which has since been maintained, and prices are now nearly what they were in March last.

The balance standing to the credit of the profit and loss account on June 30 last amounted to 1490s. 7s. 2d.; out of this sum the directors declared a dividend of 2s. per share, payable on Oct. 4, 1499s. 18s.; leaving a balance to carry forward of 140s. 11s. 2d.

[For remainder of Meetings see this day's Supplement.]

WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,
MINEOWNERS, STOCK AND SHARE DEALERS, &c.
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

D'ERESBY CONSOLS.—We have had the ground dialed, and the lode underlies away from the cross-cut about 1 ft. per fathom; and as the cross-cut is 30 fms. deep this would give a dip of 30 ft. after getting under the perpendicular of the Cobbler's lode, as seen at surface; and the agents think, therefore, there are nearly 5 fms. more to drive. Several small joints have already been met with.

It will be seen by the report that a great and favourable change has taken place in the character of the ground at No. 5, in D'eresby Mountain, and good returns of lead will be made.

A report has been in circulation that another dispute has arisen in regard to the boundary between West Basset and South Frances, and that the latter had encroached on a rich stope of West Basset. This is now denied, and we hope there is nothing serious in the matter. The last dispute between the two mines in regard to the boundary cost, we believe, over 30,000l., and ruined both mines for a time.

The only safe test of a mine is its productiveness, and in future we shall advise our correspondents to judge of Wheal Crebor not by reports of "bulls" and "bears," but by its returns. We have stated that the ore for sale next week has been obtained without a single stope, but that as soon as the winze from the 108 had been communicated with the 120, stopes would be set and returns greatly increased. The first setting since the communication has been made took place this week, and it will be seen that the points now in operation are valued in the aggregate at 272l. per fathom. We have estimated the sale of ore next week at 700l., and are informed on good authority that the sampling for the next two months is estimated at 500 tons, which at 4l. per ton (and much of it may bring over 6l.) will give a profit of 1500l., or 750l. per month. At this rate by the meeting in February there would be 3000l. profit, and we strongly believe the estimate will prove pretty nearly correct. We understand many hundreds of shares have been "beared," and every means is being devised to bring down the price and frighten shareholders out of their property. For ourselves and friends, who hold nearly half the mine, we may say that we did not sell a share when they were at 10l., nor should we sell if they went to that price again tomorrow. With these remarks to the bona fide holders we shall leave the "bulls" and the "bears" of the market to fight their own battle at the coming "settlement." Capt. Holman, of South Caradon, has inspected the mine again this week; he values the 108 east at 42l. per fathom, and the 120 east at 95l. per fathom. He further states that he saw no appearance of its falling off, or any diminution in its value. At the same time, as we have said before, if the ends fell off to 10l. per fathom it would not disturb us, it being the nature of the lode to vary in productiveness.

The only mines that we know of on the Crebor lode are Crowndale and East Crowndale. The former, one of the richest mines in the district years ago, is on the estate of the Duke of Bedford, and will not, it is understood, be granted, except to Crebor adventurers. East Crowndale is on the estate of the Earl of Devon, and has been taken up, we understand, by a London company in 12,000 shares, and it is to be called East Crebor. We remember the mine when it was worked about 20 or 30 years ago; it made large returns shallow, and was given up for want of funds when less, we think, than 70 fms. deep. In Mr. Watson's Progress of Mining for the year 1853, in writing of this mine, he remarked "Two tributaries working in a pitch at 13s. 4d. in 17, discovered a bunch of ore worth 40l. per fathom, which gave new life to the undertaking. The returns since this discovery in 1853 have been 386 tons of ore, realising 3200l. A cross-cut is in course of driving towards the lode in the 68 fm. level, which will ere long get under the bunch discovered in the level above, and open out profitable ore ground. What the present company intends doing we cannot at present say. Rix Hill part of East Crowndale paid a dividend of 4s. per share in 1853.

A correspondent wishes to know to what extent copper would have to rise to enable Parys Corporation to make returns of copper irrespective of the 90 cross-cut south. This we hope to answer next week. At the old price of copper the mine would work to a profit.

We have no time this week to refer to the communications just received from "Tan-yr-allt" and others in reference to "Mining on the Stock Exchange since the days of Van."

SATURDAY, OCT. 4.—Market active for tin shares, at an advance. Crebor, Parys Copper, East Caradon, West Seton, and Tankerville in demand. Carn Brea, 40 to 42½; Dolcoath, 36 to 38; South Condurrow, 12 to 13; South Frances, 8½ to 9½; Tincroft, 10½ to 11; West Basset, 6½ to 8½; West Frances, 6½ to 8½; Grenville, 4½ to 5½; Pever, 13 to 13½; Crebor, 5½ to 5¾; Parys Copper, 15s. to 17s. 6d.; East Caradon, 1 to 1¼; West Seton, 40 to 45; Tankerville, 3½ to 4; Roman Gravel, 8½ to 9½; Van, 16 to 18½; Great Laxey, 16 to 17; Marke Valley, 17s. 6d. to 20s.; Richmond, 8 to 8½; Don Pedro, 12s. to 14s.

MONDAY, OCT. 6.—Market again active for tin shares. Lead and copper stocks also in demand. Dolcoath, 37 to 39; West Frances, 7½ to 7¾; Carn Brea, 40 to 42½; East Lovell, 3 to 3½; Pever, 13½ to 13¾; South Condurrow, 12 to 13; Devon Consols, 4 to 4½; Tankerville, 4 to 4½; West Chiverton, 3 to 4; West Tolgus, 26 to 28; Mellanear, 3½ to 4; Marke Valley, 1 to 1¼; Parys Copper, 16s. to 18s.; Van, 16 to 17; Leadhills, 2½ to 2¾; Herodfoot, 2½ to 2¾; Crebor, 5½ to 5¾; Kitty, 1 to 1½; Cape Copper, 29 to 30; New Quebrada, 2½ to 2¾; Richmond, 8½ to 9½.

TUESDAY, OCT. 7.—Tin shares are again very firm at a further advance. Devon Consols, Leadhills, West Pateley Bridge, and West Chiverton firm at quotations. Crebor and Parys Copper weaker. Carn Brea, 40 to 45; Dolcoath, 39 to 41; East Lovell, 3½ to 3¾; South Condurrow, 12½ to 13; South Frances, 9½ to 9¾; Tincroft, 10½ to 11½; Agar, 3½ to 4; Grenville, 5 to 5½; Pever, 13½ to 13¾; Devon Consols, 4 to 4½; Leadhills, 2½ to 2¾; West Pateley Bridge, 2½ to 2¾; West Chiverton, 3½ to 4; Crebor, 5 to 5½; Parys Copper, 14s. to 16s.; Basset, 2 to 2½; West Seton, 40 to 45; Tankerville, 4 to 4½; Van, 16 to 17; Great Laxey, 16 to 17; Marke Valley, 1¾ to 1½; East Van, 2½ to 2¾; Roman Gravel, 8½ to 9½; Don Pedro, 12s. to 14s.; Eberhardt, 2 to 2½; Frontino, 2½ to 2¾; Panulillo Copper, 2½ to 2¾; Richmond, 8 to 8½; Santa Barbara, 32s. 6d. to 37s. 6d.

WEDNESDAY, OCT. 8.—Tin shares have further advanced, and close very firm. Devon Consols, Tankerville, and Marke Valley in good demand. Roman Gravel and Richmond weaker. Carn Brea, 45 to 50; Dolcoath, 40 to 42½; East Lovell, 3½ to 4; South Condurrow, 13 to 14; South Frances, 9½ to 10½; Tincroft, 12 to 13; West Basset, 7 to 7½; West Frances, 7½ to 8½; Basset, 2½ to 3; Pever, 14 to 15; Devon Consols, 4½ to 5; Tankerville, 4½ to 5; Marke Valley, 1¾ to 1½; East Caradon, 1¼ to 1½; East Van, 2½ to 2¾; Roman Gravel, 8 to 8½; West Chiverton, 3½ to 4; West Tolgus, 26 to 28; Mellanear, 3½ to 4; Van, 16 to 17; Great Laxey, 17 to 17½; Crebor, 5 to 5½; West Seton, 37½ to 42½; Parys Copper, 14s. to 16s.; Richmond, 8 to 8½; Cape Copper, 29 to 30; Eberhardt, 2½ to 3; Santa Barbara, 32s. 6d. to 37s. 6d.

THURSDAY, OCT. 9.—Market active for most descriptions of tin, lead, and copper shares. Carn Brea, 47½ to 50; Dolcoath, 40 to 42½; Devon Consols, 4½ to 5½; East Caradon, 1½ to 1¾ (call paid—2s. 6d.); East Lovell, 3½ to 4; East Van, 2½ to 2¾; Grenville, 7s. 6d. to 12s. 6d.; Great Laxey, 16½ to 17½; Herodfoot, 2½ to 2¾; Leadhills, 2½ to 2¾; Mellanear, 3½ to 4; Marke Valley, 1¾ to 1½; Morla Du, 15s. to 17s. 6d.; Parys Corporation, 14s. to 16s.; Roman Gravel, 8 to 8½; South Condurrow, 13 to 14; South Frances, 9½ to 10; Tankerville, 4½ to 5; Tincroft, 12½ to 13½; Van, 16½ to 17½; West Basset, 7½ to 8; West Chiverton, 3½ to 4; West Frances, 8 to 9; West Tolgus, 26 to 28; Agar, 3½ to 3¾; Basset, 2½ to 3; Crebor, 4½ to 4¾; Grenville, 4½ to 5; Pever, 13 to 14; Uny, 1½ to 1¾; Cape Copper, 28 to 30; Don Pedro, 12s. to 14s.; Eberhardt, 2½ to 2¾; Frontino, 2½ to 2¾; New Quebrada, 2½ to 2¾; Panulillo Copper, 2½ to 2¾; Richmond, 7½ to 8½; Santa Barbara, 32s. 6d. to 37s. 6d.

FRIDAY, OCT. 10.—Market not quite so active for tin shares. Lead shares in demand, in consequence of the rise in metal. Carn Brea, 47½ to 52½; Dolcoath, 40 to 42½; South Frances, 9½ to 10; South Condurrow, 13 to 14; West Basset, 7½ to 8½; Grenville, 4½ to 5½; Pever, 14 to 15; Roman Gravel, 9 to 9½; West Chiverton, 3½ to 4; Mellanear, 3½ to 4; West Tolgus, 26 to 28; Crebor, 4 to 4½; Herodfoot, 2½ to 2¾; Van, 17 to 18; Great Laxey, 16½ to 17½; Tankerville, 4½ to 5; Devon Consols, 5 to 5½; Basset, 3 to 3½; Kitty, 1½ to 2; Cape Copper, 29 to 30; Richmond, 8 to 8½; Frontino, 2½ to 2¾.

MR. WILLIAM H. H. WATSON, DEALER IN RAILWAY STOCKS AND MINING SHARES at net market prices, is a BUYER OF WHEAL CREBOR, PANDORA, COMBARTIN, and PARYS MOUNTAIN.

Address: W. H. H. WATSON, 1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON, E.C.

Registration of New Companies.

The following joint-stock companies have been duly registered:—

THE MICKLEOVER AND ETWALL GASLIGHT AND COKE COMPANY (Limited).—Capital 6000l., in shares of 10l. The making and supplying with gas, coke, and other kindred materials the villages of Mickleover and Etwall and adjacent parishes in Derbyshire. The subscribers are—W. Holly, Derby, 30; H. H. Benrose, Derby, 30; C. H. Bakewell, Quamdon, 20; B. Bradley, Derby, 50; E. Mills, Derby, 30; G. Murray, Elvaston, 5; W. Peat, Derby, 20; C. E. Newton, Mickleover, 50; J. Haslem, Derby, 50.

PROFESSIONAL CLIENTS' CO-OPERATION (Limited).—Capital 100,000l., in shares of 10l. and 1l. To act as accountants, stock, share, and insurance brokers, agents, discounters, money lenders, financiers, &c. The subscribers (who take one 10l. share each) are—F. Pope, 72, Cromwell-road; C. Messent, 108, Fleet-street; G. G. Wright, 1, New Broad-street; J. B. Meikle, Acton; C. Smith, Leamington; R. K. Stubbs, Ealing; C. H. Davison, 2, Milner-square.

THE WINE AND SPIRIT TRADE COMPANY (Limited).—Capital 15,000l., in shares of 50l. and 5l. To import, purchase, and sell wines and spirits by wholesale and retail. The subscribers (who take 5l. shares) are—A. Brodie, 20, Mark-lane, 20; W. O. Hancock, 6, Muscovy-court, 20; C. Webb, Dunster House, Mark-lane, 20; W. B. Parker, 38, Poultry, 1; F. H. W. Nisbett, 218, Cromwell-road, 1; G. F. Montgomery, Mark-lane, 1; F. R. H. Heawood, 4, Savage Gardens, 20.

CONSTANTINOPLE LAND AND BUILDING COMPANY (Limited).—Capital 25,000l., in shares of 2l. To acquire by purchase for 24,000l., payable in shares, lands and hereditaments in Constantinople, and to carry on generally the business of a land and building company. The subscribers (who take one share each) are—W. T. H. Radford, 2, Fenchurch Avenue; F. H. Credland, 16, Oakley-street; F. H. Thorpe, Clapham; O. W. Horne, 35, Finchley-road; C. Daff, 56, Oakendon-road; T. Phillips, Hampstead; A. S. Marks, 34, Colville-square.

THE BARTON-UP-IRWELL CONSERVATIVE CLUB BUILDING COMPANY (Limited).—Capital 5000l., in shares of 1l. To acquire land, and erecting thereon a club and any other buildings that may be required. The subscribers (who take 50 shares each) are—B. Taylor, Eccles; C. W. Bayley, Eccles; H. Boddington, jun., Manchester; A. Burton, Eccles; R. Hall, Eccles; W. H. Boddington, Eccles; H. Wilkinson, Eccles.

THE EXETER ARCADE COMPANY (Limited).—Capital 15,000l., in shares of 10l. The acquiring and building of houses, hereditaments, and shops in Exeter, and selling and otherwise disposing of same. The subscribers are—J. Pope, Exeter, 20; W. H. Ellis, Exeter, 20; J. Damevel, Exeter, 20; G. F. Truscott, Exeter, 20; R. Preston Bishop, Exeter, 10; E. E. Brand, Exeter, 10; S. R. Force, Exeter, 5; W. H. Tighe, Exeter, 5; W. Cotton, Exeter, 20; J. Bier, Exeter, 20; G. Franklin, Exeter, 10; M. Prome, Exeter, 10; L. J. Kennaway, Exeter, 5.

THEATRE ROYAL, OLDHAM (Limited).—Capital 10,000l., in shares of 5l. To purchase a hall in course of construction at Oldham for the purpose of a theatre, and to conduct or sell same. The subscribers (who take five shares each) are—J. Hargraves, Oldham; O. H. L. Hargraves, Oldham; S. Jackson, Oldham; J. T. Mumps, Oldham; J. Firth, Oldham; W. Firth, Oldham; A. Boyd, Oldham.

KIRKHAM, HULETT, AND CHANDLER (Limited).—Capital 80,000l., in shares of 20l. To acquire the business carried on by Kirkham, Hulett, and Chandler of machine manufacturers, or to continue such business. The subscribers (who take one share each) are—T. N. Kirkham, 21, Abingdon-street, Westminster; C. J. Hulett, 21, Abingdon-street, Westminster; D. Hulett, 55, High Holborn; S. Chandler, 104, Newington Causeway; S. Chandler, the younger, 104, Newington Causeway; J. Chandler, 104, Newington Causeway; T. Hersey, 21, Abingdon-street, Westminster.

MARKET ECHOES AND MINING MATTERS.

There appears now to be no doubt that a general revival has set in for mining. Heavy business is the order of the day, and shares of all good mines—tin, copper, and lead, are rapidly increasing in value. The past week has, however, been chiefly noticeable for the great rush upon tin shares, in consequence of the two sharp advances of the metal in London, amounting together to 10l. per ton. These have been followed by a further rise of 3l. in the Cornish standards; but considering the increased value of tin, and its firm appearance, the Cornish rise can only be considered as an instalment of what is to come. The standards have now been advanced about 16l. from the lowest, equal to nearly 10l. per ton on good black tin (that is the ore as sold from the mines); and as to many mines, this increment represents so much additional profit, it can readily be understood why the leading shares should now command such much higher prices. A glance at the List shows some marked changes in quotations. Botallack a month since were 22; they are now 55. Dolcoath were 30; present price, 40 to 42. East Pool about 13, now 16 to 17. East Lovell 30s., now 3 to 3½. South Condurrow 11½, now 13½ to 14½. Carn Brea from 30, have risen to 45. South Frances from 7½ to 10. Tincroft from 10, to 13½; the rise would doubtless have been greater here but for a "crush" in the mine. West Basset from 4½ to 5 to 8½. West Frances from 4½ to 9½. Wheal Jane from 30s., to 4. Wheal Owles from 20, to 60. Wheal Pever from 11, to 14½.

Not for seven or eight years has such confidence been felt as to the future of our mines. The low prices have taught many a useful lesson of economy, the effects of which will be lasting, and as was stated last week at the Tincroft meeting, it will doubtless turn out that Cornish mines have not been altogether losers by the crisis under which they have laboured, and from which they now appear to be so triumphantly emerging. There is now, in fact, plenty of confidence in the future, and mine managers and adventurers are once more in high hope.

The following figures relating to the statistical position of the trade will perhaps be read with interest:—On the first nine months of the year, as compared with the same period in 1878, shipments from Australia show a falling off of nearly 2000 tons, whilst deliveries have increased. Cornwall has produced about 800 tons less than during the corresponding period last year. It has been officially announced by the Dutch Government that the Banca sales, owing to falling off in production, will show a reduction of nearly 500 tons in 1880. The London market is extremely buoyant, and tin is quoted as high as 88l. Last week the price was about 78l.

Although tin shares have engrossed so much attention, copper shares have had their fair share in the general improvement. Devon Consols has led the way with a rise to 4½. Marke Valley have also been in great request. East Caradon have been largely dealt in. At the meeting this week a call of 2s. per share was made. Parys Corporation are rather weaker on realisations, but still attract a good many investors. Crebors are decidedly in the shade, and the price is languid at 3½ to 4½. The market is still divided as to the actual value of the mine, but, on the whole, the opinion is gaining ground that the discoveries have been much over-rated. On the last inspection day (Tuesday) there was an ominous offering of shares, and the price fell.

Another rise in lead has caused a sharp demand for lead shares, and all the leading mines are better. Blende maintains well the late advance. Van is 17½ to 18; Roman Gravel, 8½ to 9½; Tankerville, 4½ to 4¾. Great Laxey has just given a dividend of 5s. per share. JAMES H. CROFTS.

INVESTMENT NOTES.

The important rise in tin in the London metal market and the further advance of 5l. per ton in the Cornish standards have caused a brisk demand for tin shares. During the past month the value of five of the principal tin mines has increased from 227,364l. to 386,886l. It must be borne in mind that each advance in price of the produce adds to the profits, which will, doubtless, be much larger than they were when the metal was formerly at such a high price, as working expenses have been everywhere reduced considerably. The public and clients have been constantly urged to make their purchases when shares could be had for a merely nominal value, and even during the past few weeks the selections made in these Notes have fully realised the anticipations expressed. There are yet shares to be bought which have not reached their proper value on the prospects of improvements in the mines, and continued rise in both tin and copper. Of such East Caradon, Parys Corporation, North Buxy, Kitty (St. Agnes), East Lovell, Wheal Basset, and Wheal Agar may be mentioned.

Crebors have not fluctuated so much during the week. Many inspectors visited the mine last Tuesday, but their reports do not all agree as to the value of the various points and the future of the property.

The sales of copper alone will prove the accuracy of the opinions so confidently asserted. The call made at East Caradon was 2s. 6d. per share, and a very promising report was issued. A good rise in shares is not at all improbable. Owing to the fall in Crebors, East Caradons became weaker, after being 30s., but now at 1½ to 1¾ the shares are required for. In lead shares, Tankerville (recommended at

3 to 3½) have advanced to 4½, 4¾. Leadhills are worth buying at 2½ to 2¾; and the rise in the price of lead should cause the Van dividends to be increased, so a further advance in shares may be looked for. Herodfoot remains steady at 2½ to 2¾, and should be purchased. Reference has so recently been made to North D'eresby Mountain Mine that comment is unnecessary, further than to state that copies of the special reports may be obtained by intending investors. Evidence is conclusive that the company possesses a most valuable mine.

The Stock Exchange markets have been very active, and a heavy business has been transacted in Brighton A., North British, Berwick, Caledonian, Chatham, Dover A., Egyptians, Erie, Canada, Trunks, &c.

P.S.—Lead has improved 10s. to 12s. 6d. per ton, and a firm market exists for Van at 17½ to 18½, and Roman Gravel at 9 to 10. The latter mine is looking splendid, and at present prices the shares are a safe investment, while dividends will probably increase, as it is almost certain that lead has only just commenced to rise. Basset shares are 2½ to 3; the new engine—a powerful 80-inch—has been started under very favourable circumstances. Being manufactured in dull times, the company saves a large sum of money, and it speaks well for the energy of the adventurers that they should have been bold enough to order such a fine piece of machinery when times were not so bright as they are now.

76, Old Broad-street, London, Oct. 10.

THE WEEK.

SATURDAY, OCT. 4.—Several home railways rather lost ground, and there was a complete absence of the animated bidding of the previous day. An advance of ¾ in Caledonian, and one of ¼ in Great Eastern, were the sole improvements. Of late there has been an utter want of life in Great Eastern, and it has not been possible to make anything out of the stock for at least three accounts. Many who missed British, Berwick, Brighton, and Caledonian bought here, and so far have rather lost than made money. Crebor were dull at 5l. So far the "bears" have been the best friends to the shareholders, their excited "buying back" having sent up the price far more effectually than any report from the mine. At present there appear to be very few "bears," and if this continues the upward tendency hoped for is likely to be very slow indeed. Ebbw Vale Steel, 5½ to 6¼. Railway Share Trust, 7½ to 8. Brighton Aquarium, 6¼ to 7¼. Varna Railway, 6¼ to 7.

MONDAY.—There was a fresh outburst of bidding for home railways, and several stocks had a further considerable rise. District rose 2l. straightaway, as did Berwick, while the rise in Brighton, A., was as much as 2½. The traffic showed an increase of 1445l., which came up to the highest expectations. Great Western touched par. Tin mines were in active demand, but very few shares could be got. A nominal advance of 10l. was reported in Wheal Owles and Botallack. West Chiverton, 3 to 3½; Van, 16 to 17; Marke Valley, 1 to 1½; East Van, 2½ to 2¾; Panulillo, 2½ to 2¾. Erie shares and bonds were exceedingly good, being a rise of 2½. Ebbw Vale touched 86½, being a rise of 2½; the shares reached 39½, being a rise of 2½.

TUESDAY.—A pause was shown in home railways, and sellers had to accept less than was offered yesterday. Caledonian and North British both closed at 1l. lower. At one time Brighton, A., was selling at 120½, but the closing price was 11l. below this. Extraordinary prices were again paid for Erie shares and bonds. The former left off as high as 42½, being a further jump of 83. At one time a determined attempt was made to depress prices, and for a few minutes the shares were down to 41½, but all offered were soon snapped up. The Second Mortgage reached 88. Grand Trunk also commanded attention. The First Preference advancing 1½, to 54. Ebbw Vale, Rhymney Iron, Chillingham Iron, and New Sharlstone were all wanted at an advance of from 10s. to 20s. Wheal Crebor declined to 4¾.

WEDNESDAY.—The first recorded bargain this morning in Erie was at 39½, and between this and 40 the price remained stationary until nearly the close, when owing to the opening price at New York being called higher there was quickly a jump to 41½, 42; the Second Mortgage fell 1l. 5s. A good business was done in East Argentine at over 12, and in Mexican at over 2. Reading shares declined to 22½. Pennsylvania were fairly steady at 84½. United Rolling stock shares were in demand at 15. Carn Brea and Dolcoath were each quoted a couple of pounds higher. Devon Consols, 4½ to 5. Tankerville, 4½ to 4¾. Wheal Kitty, 1½ to 1¾. East Pool, 16½ to 17. Home railways were dull all day.

THURSDAY.—The issue of favourable Board of Trade Returns lent fresh vigour to operations for a rise in home railways. Brighton, A., was so much fancied that at one time the stock was selling at 122½, a rise of nearly 3l. from yesterday, but this price was not maintained. There was the same rise shown in Dover, A., for a little time. Great Western from par continued rising until 102½ was reached. Mexican railway shares were a good market, and fetched 2½. East Argentine being 12½ to 12¾. Devon Consols rose to 4½, 5½, business being done at 5. Business was done in Marke Valley at 1¾. A strong enquiry existed for Nant-y-Glo, Fellsall, West Cumberland, New Sharlstone, and other coal and iron concerns. Very few sellers came forward. On the issue of the Bank returns, showing a falling off in the reserve, realisations of profits in railways followed, Brighton and Dover, A., being soon 1l. below the best point reached.

FRIDAY (Opening).—Egyptian Preference is 1 per cent. higher (77¼), on expectation of the dividend being shortly announced. For United 48 is bid, a rise of ¾. In home railways the principal change is in Brighton A., which is firm at an advance of ½ per cent. 122½ to 123½. Midland, 127½ to 128½. Caledonian, 97 to 97½. North British, 68½. Dover A., 113½ to 113¾. Great Eastern has advanced ¾, 56½ to 56¾. Chilian Bonds maintain yesterday's rise. The American market is quiet; Erie shares are unchanged, at \$41. Roman Gravel, 8½ to 9. Wheal Crebor, 3½ to 4. Llanera, 3½ to 4. Parys Copper, ¾ to 1. Devon Consols, 5 to 5½. Van, 17 to 18. The Great Laxey dividend is announced as one of 5s. per share. Wheal Kitty, 1½ to 2. Two o'clock.—This being almost the last day of the present account, the markets are very quiet, and business restricted. Apparently, "bears" must now prepare for heavy differences on pay-day, as there is now little chance of getting prices down. Brighton A. are 121½, and were carried over last time at 113½. In this stock alone, therefore, on a small account of 5000l., over 400l. will be due. Egyptian United has risen to 48½, 48¾, while the Preference has fallen to 76½. Great Western is 1 per cent. higher, at 103. Business has been done in Devon Consols at 5½, in Tankerville at 4½, and in Marke Valley at 1¾. Mexican are ¼ better, 10½ to 10¾, and Districts ¾, 87½. Four o'clock.—Most American bonds and shares had a rally before the close, and finished higher. Reading shares reached \$25, yesterday were sold at \$23. Grand Trunk first moved up to \$4½, 55; and Erie shares to \$41½, \$42. Egyptian closed dull, United being 84½, and Pennsylvania to 76½. Eberhardt, 2½ to 2¾. Flagstaff, 5½ to 5¾. Great Laxey, 16½ to 17½. West Asheton, ¾ to 1. Brighton A., 122½. Great Eastern, 56½ to 56¾. Caledonian, 97½ to 97¾. Chapel House Colliery, 1½ to 2. Cardiff and Swansea, ¾ to 1½. Newport Abercrom, 5 to 5½. Bilson and Crump, 1¼ to 1½. FERDINAND R. KIRK.

WEST SETON MINE—ITS PROSPECTS.

With the advance of the standards in copper and tin this celebrated mine is again coming to the front. A few remarks on it may not be amiss. The mine commenced working in 1847, and the sum of 19,000l. was expended by the shareholders in erecting machinery and opening up the mine. After a considerable amount of perseverance copper ore was discovered, and the discovery being a good one large returns were made. Many handsome dividends were declared, and shares run up to an enormous price, the market value of the mine being reckoned at 160,000l. This large sum was, however, fully warranted by subsequent dividends, and a sum of 203,000l. was divided among the fortunate shareholders, besides a large amount laid out in additional machinery on the mine. These were in the palm days of mining, and although the mine has been for some time suffering from the depression in the price of metals in common with other mines, there is every probability of it again attracting a considerable amount of attention.

The great course of copper ores held down as deep as the 145, and at the next level—the 155—the copper ore, as in Dolcoath and other mines, greatly diminished. Tin, however, began to show itself, and the value of the level was greatly affected by these minerals becoming much mixed together, and owing to the great cost and loss in separation sinking to deeper levels was resolved on, and on the 165 being opened westward the lode was found to have completely changed from a copper lode into a tin lode, thus following the same course in changing as Dolcoath. The 165 has been driven for 80 fms. through a very good lode of tin, the average produce being 56 lbs. of tin in each ton of tinstone, the average width of the lode varying from 8 to 12 ft., and the end still continuing good. The next level—the 177—is now extended into the same run of tin ground, the lode maintaining its full size, and with increased depth becoming much richer. A winze has also been sunk from the 165 to the 177 to test the lode, and the lode here has been found richer as they go down. The present end at the 177 yields fully 84 lbs. of tin to the ten of tinstone, and is valued at about 45l. per fathom. As this level has only just entered the long run of tin ground seen in the level above for 80 fms. in length, it seems reasonable to expect that a very large extent of tin ground will be laid open by it and by still deeper levels, to reach which the shaft is being again sunk with all possible speed. The future of this mine is regarded by many practical miners with much interest, as it bids fair to become quite as valuable in the future for tin as it has been in the past for copper.

SANTA BARBARA.—Shareholders will find that in the immediate future an increasing profit will be realised. The mine having improved the force has been increased, and under the present effective administration such remunerative results will accrue as to cause these shares to rise considerably in market value.

HOLLOWAY'S OINTMENT AND PILLS—RHEUMATIC PAINS, TIC DOLOREUX.—These diseases are, unfortunately, very prevalent in this country, and are frequently most distressing, sometimes for years baffling all medical skill, to alleviate the sufferings of the victim. In no case has Holloway's ointment and pills failed to produce a cure. The ointment exerts a peculiar and soothing influence over the nerves and muscles, relaxing spasms and subduing pain. The attack soon becomes milder and the intervals between the paroxysms longer, until they cease altogether. The pills restore the body from a weak and debilitated condition to a state of health and strength. Persons bedridden for months with rheumatic pains and swellings, after using the ointment, have been cured in an incredibly short period.

Llanbadarnfawr Lead Mine Company

(LIMITED).

Capital £20,000, in 5000 Shares of £4 each.

3875 of which will be denominated A Shares, and will be liable to calls, and 1125 of which will be denominated B Shares, and be issued as fully paid-up to vendors of the property.

£1 payable on application and £1 upon allotment. In case of no allotment, all moneys will be returned in full. No calls to be made within six months after allotment.

AUDITOR (AND ACTING SECRETARY, PRO TEM.)—MR. E. L. ERNEST.

OFFICES,—4, QUEEN STREET PLACE, CANNON STREET, LONDON, E.C.

ABRIDGED PROSPECTUS.

This company is formed for the purpose of purchasing from the present holders the Llanbadarnfawr Mining Sett, and by proper application of capital developing the evident great resources of the property, which it is confidently believed by the best scientific authorities must yield great returns to the investors.

The property is situated in Cardiganshire, on the estate of Sir Pryse Pryse, some eight miles from the shipping port of Aberystwyth, and in the heart of the richest cluster of lead mines in the United Kingdom.

It has an area of one mile in length upon the run of the lodes, with about half a mile of breadth, and the turnpike road to the port forms one of the boundaries of the sett—a very great advantage in itself, the cost of carriage being much reduced thereby.

There is every reason to believe that this mine will prove one of the great prizes of this noted country. The fact of its position—viz., in the immediate neighbourhood of the best and richest mines of the past and present—would alone be sufficient to warrant its energetic working, but in addition the incoming shareholders will reap the advantage of the property having to a great extent been proved for them, and proved sufficiently to amply justify the purchase, and the application of the necessary capital to continue the work already commenced. During the development there will be good returns, and every day's work will show the mine growing richer in productiveness, and on the road to rival the best of its valuable neighbours.

An engine-shaft has been sunk 30 fms. from the surface, and levels driven at 20 and 30 fms. east and west. The 30 fm. level has been driven into a splendid lode, and it is only necessary to examine the ore hauled from this level and now lying at surface to be convinced that a great and profitable mine is in store here. In the adit level a valuable discovery of fine ore has been made, spotted with copper, just at the point of junction of two lodes, and the lode in the level west of the south cross-cut has been proved of excellent value, even at this early stage.

The mine has the great advantage of ample water power for raising, crushing, and dressing the ore, and thus a saving of a large outlay, &c., for steam-engines,

is effected; water courses have been already made, bringing the water into the sett. Water power is one of the rare features in mining, and one that cannot be too highly appreciated.

There are the following necessary adjuncts for working on the mine, which with moderate outlay can be made sound and good—viz., a 30 ft. diameter water-wheel sunk in a 40 ft. pit, built in a thoroughly substantial manner, with bobs, travellers, and rods from wheel to shaft, pulleys, stands, &c., 60 fm. pumps, drawing machine fixed, &c.; there are also smiths' and carpenters' shops, store house, offices, &c.

From the position—some half mile south of the celebrated Goginan, and as before stated surrounded by all the richest mines of the district—and character generally of this property, it is not too much to claim for it that it is undoubtedly the best and most promising mine that has been offered to the public for many years. The proposed capital and purchase money bear but trifling comparisons to what is evident the property is capable of becoming under good management and with sufficient working capital, and it, therefore, offers an excellent opportunity for investing money with confidence.

The mine as it stands with plant, &c., takes note for two years, with liberty at any time to take up lease for twenty-one years, subject to minimum rent of £25, merging into dues of one-sixteenth, the company has agreed to purchase for £3500 in money, and £4500 in paid-up shares. This moderate and reasonable price will leave ample capital for the development of the mine, and the directors will see that the money of the shareholders is applied justly and judiciously to the working of their property.

It is confidently anticipated that no further call will be required, but that, on the contrary, the amount proposed to be called up will be more than sufficient to develop the property, and bring the shares to a large premium.

Prospectuses, plans, contracts, Memorandum of Association, &c., can be had, and directed, at the offices of the company.

Mining Correspondence.

BRITISH MINES.

ABERYLLY—J. Roberts, Oct. 8: Monthly Report: During the past month the ground in No. 2 cross-cut has been rather hard, and spare for driving. We have driven here about 6 ft.; this is let this month to two men, at 84. 10s. per fathom. In the stopes on the hard lode we have stope about 9 cubic fathoms, being less than 4 fathoms for the whole width of the lode, which has yielded about 30 tons of blende. These stopes are let to eight men, at 44. per cubic fathom. The stope on the shale has been worked by two men (on account of sinking the winze directly under this we could not very well put more men), who have stope about 3½ fathoms, which has yielded about 10 tons of blende, and we hope to do the same here this month. In the winze below this we have sunk about 1½ fathoms; the lode has not been so very good in the past month, yet still it has yielded some good saving work for blende; set again to two men, at 67. per fathom. In the rise at No. 3, rising against this winze, we have risen 3 fathoms; it has yielded some good pockets of blende, but most of it is still standing in the rise; set to two men, at 34. per fathom. At the Valley cross-cut, after securing the mouth of the level, we have driven in the hard lode from 4 to 5 ft.; the lode is mixed with sulphur and good patches of blende; as far as we can yet see it is a very kindly lode. I expect to get the new stonebreaker up this week, and we shall get it to work as soon as possible. All the machinery works well, and when we can get the stonebreaker to work it will greatly reduce our dressing cost.

BETWYS-Y-COED—C. J. Sims, Oct. 9: There is no change in any of the points underground since my last report, excepting that in Allen's stope, in the back of the deep adit level, the lode has improved, and is now worth 30 cwt. of lead ore per fathom. We are getting on very well with the dressing, and have to-day sent out samples of 30 tons of lead ore for sale on the 16th current.

BLUE HILLS—S. Bennett, P. Vinn, Oct. 4: The lode in the bottom of the shaft below the 30 is about 1 foot wide, producing low quality tinstuff. The stope in the bottom of the 30 is worth 77. per fathom. In the 30 east end the lode continues poor.

BODIDRIS—H. Hotchkiss, Oct. 8: The only change in the 45 end is that more water is coming out of the forebreast.—Mossy-Pool Lode: In the 17, east of new shaft, we are now stopping in bottom or this level, where we have good lead-stuff for the dressing floors. The level west of shaft is improving for lead ore. All other points are without change to notice since my last, and all going on regularly, and with as much speed as possible.

BWLOH UNITED—Nicholas Bray, Oct. 3: The lode in the 70 fm. level, driving east of Ritchie's shaft, is getting wider and more vertical, with no other change of importance since last report. The shaftmen will commence dividing and casing the shaft to the 100 fm. level on Monday next; the timber is already prepared for this work. All other matters are progressing well, and machinery in good order.

CARON—John Kitto, Oct. 4: The lode in the 22, driving east from engine shaft, has much improved during the past week, and is now yielding good stones of lead ore. We have not yet effected a communication between this level and the winze below the 10, but next week, if all goes well, we shall have next immediately this done, and ventilation secured, we shall resume stoping ore ground, and shall also proceed to prove the size and character of the lode by cross-cutting the same in the 22. There is nothing else new in any part of the mine. The machinery is all in good order, and working well.

CLEMENTINA—John Roberts, W. Sandoe, Oct. 8: There is no change in the bottom ends to notice. The stope at the 25 on the east and west lode is producing very good lead, but as we have only just commenced we cannot say very much about it, but will report more definitely next week. The roadside shaft is being cleared up by eight men, as far as possible. We found about 10 ft. of lime and debris in the shaft, and the level also choked up, but we hope next week we shall get them pretty clear. We have been able to get into the end under the meadows, and find there a nice branch of lead, but every bit of lead seems to have been dug after as far as ever the old workers could reach it.

COMBARTIN—J. Harris, J. Comer, Oct. 4: We have to-day set the following bargains:—The 12 to drive south-east of winze, by four men, at 44. 10s. per fathom, the month; the leading part of the lode is 18 in. wide, and worth 5 cwt. of good silver-lead per fathom. The 12 to drive north-west of winze, by four men, at 44. 10s. per fathom, the month; the lode is in rather a disordered condition at this time, being within the influence of Harris's cross-course, which we think just passed through, but the lode is showing good stones of lead, and we think in another 6 ft. driving we shall see a decided improvement, as it is showing such encouraging features. After opening this level a little we shall commence sinking the winze again below this level. The adit level to drive north-west on caunter lode, by four men, at 55. 5s. per fathom; lode from 5 to 6 ft. wide, producing nice patches of good lead, blende, and munda; the lode has a most kindly appearance for the production of lead. The adit cross-cut to drive north, by six men, at 67. per fathom, the month; the end is in a favourable channel of kiles, and we are meeting with nice branches of quartz, spotted with lead, blende, and munda.

CROOK BURN—Oct. 3: The sinkers have this week been continuing on with both the sinking and walling of shaft. The hardness they came upon when they put in the crib and thought was limestone has proved to be only a single post; beneath this is plate and grey beds pretty firm, and to all appearance the shaft may be put with timbering and without walling.

CWMYSTWTH—Oct. 8: We are pleased to be able to inform you that we have reached the lode in the 15 cross-cut driving north of Pugh's engine-shaft, and have cut into it for 3 ft. wide. Although there are still some branches in the north side, we think we are quite through the productive and main part of the lode, which is composed of lead, blende, copper, and sulphur, and worth for lead quite 1½ ton and blende 2 tons per fathom. This looks very encouraging for the western part of the mine, as this lode is in new ground over this level to surface for 80 fms. high, and about the same distance east from where we have another pipe of lead gone down. We anticipate having a good piece of productive ground between these two points, which will be opened up with full force by rock-drill, which is there in operation. We see no sign as yet of the water abating in Gill's lower level, but hope to soon, as every fathom we extend the 15 eastward will have a tendency to cut down more water. When drained sufficiently to admit of our working to an advantage we shall push on that section of the mine with vigour to communicate with the above 15 fm. level. The lode in the two stopes over Mitchell's level on the new lode is worth 1 ton of lead ore per fathom. The trial stope west has somewhat improved, and will now pay for working. The three stopes over Gill's upper level are worth 16 cwt. of ore per fathom each. In the wide stope over Level-fawr on the copper lode we are breaking fair quality stuff, and some very fine vughs of lead have been met with. A new pitch has been set over Kingside adit level to two men, at 110s. per ton. The lode is rather poor, but there is a good chance of its improving shortly. All our other pitches are yielding as usual. All our machinery is in good working order, and we are making good progress towards our next sampling. Samples of 47 tons of lead ore were sent out on Sept. 30 for the sale on the 14th inst.

D'ERESBY CONSOLS.—J. Roberts, W. Sandoe, Oct. 8: We have driven in the past month towards the Cobblers' lode about 2 fms. The ground is much easier now for driving, and much more kindly in appearance for the production of lead in the cutting of the lode. As far as we can see of the lode at surface it is dipping from the forebreast about 1 ft. in 1 fm., and if it continues this under-lying to the present level the ground is not yet quite spent. There are several small branches that have crossed the end, and there are now in the forebreast branches and joints running with the line of the lode, which gives us to think that the lode is still in advance, and that not far.

D'ERESBY MOUNTAIN.—J. Roberts, William Sandoe, Oct. 8: The lode in the sump at No. 5 is looking very well, and seems to be improving going down. The change in the character of the matrix of the lode which has taken place from the No. 4 is very remarkable; at No. 4 it is a hard quartz, but at No. 5 a prismatic spar and carbonate of lime, showing evidently that the lode improves in depth. The water is very quick, far too much for hand-pumps; but we are mak-

ing temporary arrangements for pumping with the engine, to endeavour to sink the sump, whilst we may sink the Gorse shaft, or make a shaft through the old stope over the sump, whichever may be decided on. The stopes at No. 2 are looking much the same as they have been reported for two or three weeks past. The No. 1 end is looking very well for blende; and if the price continues as it is we think we shall open some good stoping ground for blende, beside the chances of getting lead. We have sampled a parcel of blende to-day, computed 25 tons.

DEVON GREAT CONSOLS.—I. Richards, Oct. 9: Wheel Josiah—New South Lode Shaft: During the last month the 130 west has been driven 1 fm. 3 ft., the lode averaging 2 ft. wide, composed of capel, quartz, peach, and small quantities of munda and copper ores. The 115 west has been driven 2 fms. 1 ft., the lode proving 2 ft. wide, composed of capel, quartz, peach, munda, and a little good quality copper ore.—Wheel Emma—Inclined Shaft: Daves' cross-cut south, at the 190 east, has been driven 2 fms., the ground being tolerably favourable for driving. The 137 east, east of Friend's cross-cut, on the new south lode, has been driven 2 fms. 2 ft. 3 in., the lode part, carried 3½ ft. wide, being composed of very fine capel, quartz, peach, munda, and some good quality copper ore; a very promising lode.—New Shaft—New South Lode: The shaft has been cased and divided, ladders and ladder rollers have been put in, and skip-road fixed from the 190 to the 205 level complete, and since the completion of the same has been engaged driving a cross-cut north for intersection of the north part of the lode, which cross-cut has been driven 2 fms., and has intersected a portion of the lode about 2 ft. wide, composed principally of capel. It is hoped that another and more productive part of the mine is still further north, and the cross-cut is being extended in that direction for proof of same. The 190 has been driven east 1 fm. 5 ft. 5 in., the lode part carried, 5 ft. wide, being composed of capel, quartz, peach, prian, fluor, and copper ore, averaging 3 tons or 94. and 4 tons of munda per fathom. The 190 west has been driven 2 fms. 1 ft. 6 in., the lode part carried 5 ft. wide, composed of capel, quartz, peach, and copper ore, worth for the greater part of this distance 2 tons, or 84. and 2 tons of munda per fathom. It has now fallen off in value; the change, however, is considered only temporary, as the lode in the 175, east of Railway shaft, coming against this point, is a fine course of ore. The 175 west, east of Bartlett's stope, has been driven 1 fm. 6½ in., the lode part carried 5 to 6 ft. wide, being composed of capel, quartz, peach, prian, and copper ore, worth 1 ton or 34. and 3 tons of munda per fathom. This drive has been temporarily suspended to admit of a winze being sunk in the bottom of the level. This winze—Bartlett's—is down 5 ft., the lode part carried 5 ft. wide, being composed of capel, quartz, peach, and copper ore, worth 2 tons, or 84. and 4 tons of munda per fathom. The cross-cut at the top of Hockaday's rise, in the back of the 175 west, has been driven 1 fm. 4 ft., the ground proving rather unfavourable for driving; we hope, however, to effect a communication with Floyd's winze in the course of the present month. The 115 has been driven east 5 ft. 9 in., the lode proving 5 ft. wide, composed of capel, quartz, peach, prian, fluor, and a little of both munda and copper ores. The 100 has been driven east on the south part of the lode 2 fms. 3 ft. 4 in., the lode proving 2 and 2½ ft. wide, composed of capel, quartz, peach, munda, and some copper ore of good quality.—at the 175 is completed, ladders and ladder rollers are being put in, and trip plates are being put in, and the shaft is again in course of working below this level with a force of 9 men. The ground in the shaft is favourable for progress. The driving of the 175 both east and west has again been resumed; in the former direction the lode is a fine course of ore, worth for copper ore 244. and munda 5 tons per fathom. In the western end the lode is of a most promising description, and worth 3 tons of copper ore, or 94. and 3 tons of munda per fathom. Our sampling of copper ore for sale on the 23rd inst. will be 961 tons.

DUBBY SYDNEY—Wm. Vipond, Oct. 3: The men continue sinking on here in the vein still showing small specimens of ore, but nothing to value. They will complete the walling of shaft as soon as we get the stones to it. The cartman has only been there one day this week, but I expect he will get all there that is wanted next week, and they will probably finish the walling of the shaft next week end. The shaft is now down altogether a few inches of 5 fathoms.

EAST CRAVEN MOOR.—David Williams, Oct. 9: The 54 west is extended 15 fms. from shaft; the vein in the end is 3 ft. wide, consisting principally of spar, gossan, and lead ore, worth of the latter 10 cwt. per fathom. A stope in back of the level is worth 24 cwt. of lead ore per fathom. A stope in back of the 54, east of shaft, is worth 3 tons of lead ore per fathom. The cross-cut south from the 42 to the parallel veins is in 53 fms.; we have, as predicted in my last report driven through the first of the series of lodes, which at the point of intersection is 6 ft. wide, its component parts being quartz and gossan mixed with barytes and spots of ore, and is on the whole a most promising vein. We have about 10 fms. more to drive to reach the junction of this with two other lodes which proved very rich as shown in the surface excavations. The 56, west upon Hardgate end vein, is extended from the shaft 108 fms. 3 ft.; the vein here is 3 ft. wide, and producing saving work for dressing; other points progressing favourably. At surface we are proceeding favourably with dressing, and are preparing for the pumping connections. Our machinery is in excellent condition.

EAST DARREN.—Oct. 8: In the 104, east of cross-cut, the lode is 3 ft. wide, composed chiefly of dark clay-slate, carbonate of lime, spots of blende, and lead ore, yielding of the latter 1 ton per fathom. In the 92, west of cross-cut, the lode is small, and disordered by cross-joints; unproductive for lead ore. This point we suspend for the present, and put the men to sink a winze under this level in a lode 5 ft. wide, yielding 1 ton of lead ore per fathom. In the 92 east, west of cross-cut on south branch, the lode is 2 ft. wide, yielding 12 cwt. of lead ore per fathom. In the winze just commenced under the 80, west of cross-cut, the lode is 4 ft. wide, producing 15 cwt. of lead ore per fathom. In the 80 east on south branch, near Taylor's shaft, we are now passing through a cross-course preparatory to communicating to a rise worked up from a stope, in which the lode is large, and worth 1 ton of lead ore per fathom. The stope and tribute pitches throughout the mine are without change to remark. The new line of rods to Loveden's shaft is completed, and connected to the new water-wheel, which is steadily at work, enabling us to suspend the working of the steam-engine. The machinery is in good order. Drawing, &c., progressing regularly, with a good supply of water.

EAST LONGSTONE.—H. Harris, Oct. 7: We are making good progress in driving the adit towards the east and west lode. The ground is not quite so easy, but we require no timber. We hope to reach the lode in a fortnight. I see the mine is highly noticed in the Devon and Cornish Post, extract of which I send you.

EAST ROMAN GRAVELS.—Arthur Waters, Oct. 9: We have not yet cut the lode in the 97 cross-cut west of shaft, but expect to do so very shortly. The cross-cut is being driven by nine men, at 144. per fathom. The 86 to drive south of shaft, by four men, at 64. 10s. per fathom; lode 1 ft. wide, yielding stones of ore. The 75 south, by two men, at 34. 10s. per fathom; lode at present worth 1 ton per fathom. No. 1 pitch in the back of this level, by four men, at 44. per ton; worth 1½ ton per fathom. No. 2 pitch in the back of this level, by four men, at 34. 15s. per ton; worth 2 tons per fathom. No. 3 pitch in the back of this level, by two men, at 54. 5s. per ton; worth 1 ton per fathom. No. 1 pitch in the bottom of the 83 south, by three men, at 54. 5s. per ton; worth 15 cwt. per fathom. No. 2 pitch, ditto, by two men, at 54. per ton; worth 18 cwt. per fathom. Pitch in bottom of the 59, north of shaft, by three men, at 54. 5s. per ton; worth 1 ton per fathom. Pitch in the bottom of this level south, by two men, at 54. 5s. per ton; worth 15 cwt. per fathom. Pitch in the bottom of the 46, by two men, at 54. 5s. per ton; worth 15 cwt. per fathom. Our next sampling (25 tons of lead ore) will take place on the 15th inst.

EAST VAN.—Wm. Williams, Oct. 8: We have driven upon the cross-course south, west from shaft, 2 fms.; so far we have not much to say about it.

GAWTON COPPER.—George Rowe, George Rowe, jun., Oct. 4: We beg to hand you our report of this mine for the general meeting, to be held on the 6th inst., showing the present position of your property, which is as follows:—Since the last general meeting our principal operations have been confined to opening upon the south lode both east and west of the cross-cuts at the 117, 105, and 95, and working upon the lode above and below the 105 on the most productive part of the lode. The 117 has been extended both east and west of the cross-cut, proving the lode to be from 8 to 10 ft. wide, going down in the bottom of the mine, yielding capel, spar, and arsenical munda, mixed with good quality copper ore, in places to the amount of 2 to 3 tons per fathom. The 105 is extended east of the cross-cut 7 fms. 3 ft. on the lode, varying in size from 6 to 8 ft. wide, yielding arsenical munda and copper ore to the amount of 8, 10, and 12 tons per fathom. The lode in the stope below the 105, west of the winze, is yielding arsenical munda and ore to the value of 94. per fathom. No. 2 stope, in the bottom of the same level, east of the said winze, is worth 104. per fathom. Above the 105 the lode in the stope is over 8 ft. wide, producing arsenical munda and ore to the value of 164. per fathom. The lode at the 95, east of cross-cut, is over 12 ft. wide; the part carried in the driftage is producing very strong arsenical munda, mixed with copper ore, in places 6 to 8 tons per fathom. At the 82 the south lode is intersected by a cross-cut, and found to be of the same productive description, producing arsenical munda, mixed with ore 8 and 10 ft. wide, going east into the hill, where the depth of the different levels named will be greatly increased, as the driftages advance in that direction towards the great cross-course and the Bedford Consols sets, which should be extended with all possible vigour, and suitable furnaces with other appliances erected to treat our produce obtained from this large lode by separating the arsenic from the copper, and increasing its value, the result is in our opinion the best method to make your property a lasting and profitable undertaking.

GREAT DYLIFFE.—R. Dean, Oct. 8: Setting Report: Llechwedd: The 125 driving west of Bradford shaft, by six men, at 110s. per fathom; this end is now in very tight ground, containing a string of lead ore, and looks encouraging for an early improvement. The water-wheel and ventilator fixed in the shaft at the 95 are working well, keeping up a constant supply of good air at the forebreast, which, considering the distance traversed (over 120 fms.), is very satisfactory. The stope over the 115, east of Alfred's winze, by six men, at 60s. per fathom; this stope maintains its former value, being about 15 cwt. to the fathom. The stope in back of the 95, west of Bradford shaft, by six men, at 45s. per fathom, and 30s. per ton of ore; worth about 12 cwt. to the fathom. Clearing and timbering the 105 east of engine-shaft, by six men, on daywork. Stripping the lode in the 105 east of engine-shaft, by two men, at 70s. per fathom. The rise in back of the 95, east of engine-shaft, by six men, at 60s. per fathom; we expect this being through to the 85 in the course of a week or nine days, and shall then be able to put these men on more profitable work. We have seven tribute pitches on this lode set to 30 men as follows:—Four men at 60s. per ton ore, eight men at 60s. per ton of ore, 18 men at 100s. per ton of ore.—Dyfford: We have four tribute pitches on this lode set to eight men, at 100s. per ton of ore.—Esgairglad: We have one tribute pitch on this lode set to two men, at 100s. per ton of ore.—We sold 40 tons of ore to-day to Messrs. Joseph Walker, Parker, and Co., at 94. 17. 6d.

GREAT RETALLACK.—J. Harris, Oct. 6: Our men met with a run of attle on Friday last, but which they have secured; and they have not advanced so far as I expected when I last reported. I hope, however, better progress will be made this week, and that we shall get down to the 40 by Saturday next.

GREEN HURTH.—W. Vipond, Oct. 3: The end of the 30 south continues to yield about 5 tons of ore per fathom. The limestone in the end has been rising this week instead of dipping as it generally has done, the best ore is still in the bottom. The end north continues to yield 15 cwt. of ore per fathom; this end shows signs this morning of coming into easier ground. I think we may look for some improvement in the yield of ore from this part. The sump at foot of incline is still in hard ground. The two men I sent inside have got the rails relaid, and are now clearing out some work from the cross-cut from rise furthest south in incline level, and I think if the vein is to the west of us they will discover it sooner by putting this on a little further in the limestone. The new shaft is in the plate and down 2 fms.; we have begun this morning to build a shelter over this to shelter the engine at work.

GRIFFIN.—Charles Kneebone, Oct. 8: I have little to add to my report of last week, the engine-shaft is being cut down below the 10 to the required size to take the pumps, and give us room for the kibbles to work freely. We have not yet commenced to drive a stope in the 10. We have put four men to stope in the back of the intermediate level on the Griffin lode for a few days till we can resume work in the 10 to advantage. In the main adit level north the Griffin lode is very large, with good rocks of lead occasionally, but not regular, worth 7 cwt. per fathom for the part carried, with lode standing in either side. We have the old Cwm Llanerch adit level clear by Monday next, when we will be able to judge of the value of this part of the mine. We are crushing the leadstuff, and pushing on as fast as possible with our parcel of ore.

GROGWINION.—J. Kitto, Oct. 4: The deep adit level driving east has improved very much since the date of my last monthly report, and the lode now contains a branch of lead ore about 18 in. wide. The 68 fm. level end is not looking quite so well, but the other ends are without change to notice. The rise above the deep adit level is still yielding well, and so is the winze sinking below the 68. The stopes throughout the mine are looking fairly well, and are yielding an average quantity of lead stuff. Good progress has been made in driving the deep adit cross-cut towards the south end of No. 3 lode, but no change of importance has taken place since my last. We have sold for the past month 100 tons of lead ore to Messrs. Nevill, Druce, and Co., at 94. 18s. per ton, and I hope to sell a similar quantity for the current month.

GUNNLSLAKE (Olliters).—W. Skeewis, J. C. Seccombe, Oct. 8: The lode in the 224 fm. level, east of the engine-shaft, is worth 54. fm. The rise in the back of this level is worth 64. per fathom. In this level west the lode is disordered by a cross-course. The lode in the 212, east of the engine-shaft, is worth 74. fm. In this level west the lode is poor. The lode in the 200, east of the engine-shaft, is worth 164. per fathom, are looking very promising. The rise in the back of this level is worth 94. per fathom. The lode in the 205, east of the engine-shaft, is producing saving work for copper ore. The lode in the 188, east of the engine-shaft, is worth 74. per fathom. We are making about our usual progress in driving the cross-cut south at the 188. The lode in the 176, east of the engine-shaft, is worth 94. per fathom. The stopes and pitches throughout the mine continue to yield about their usual quantities of copper ore. We are making all the progress possible we can now this fine weather with the erection of the new dressing machinery.

LEEDSFOOT.—P. Temby, Oct. 9: The lode in the engine-shaft, sinking below the 205 fm. level, is 2½ ft. wide, and producing good lumps of solid lead ore. The lode is of a very promising character. The three stopes over the 205 are still holding good. We have nothing new underground this week. The several bargains throughout the mine appear to be of much the same value as last reported on. To-morrow being the end of the month the lode will be taken down in each place, and a full report sent for next week. At surface we are making much better progress with the wheel-pit, &c., and as the weather is fine we have tested the new jiggers with every kind of stuff, and I am pleased to say they answer remarkably well. We have delivered No. 2 parcel of ore at Looe, and the winze will commence to-morrow to be done No. 1 parcel.

KINGSTON DOWN CONSOLS.—Thomas Richards, Oct. 8: In the deep adit level driving east on the course of the lode a little rich copper ore is still being met with, and the present prospects are very encouraging. In the deep adit south the ground continues moderately easy, and fair progress is being made.

LADYWELL.—Arthur Waters, Oct. 9: The lode in the adit going south of new shaft is 6 in. wide, composed of carbonate of lime and stones of lead ore. The 20 fm. level south of said shaft above adit is producing stones of lead ore.

LOVELL (The).—Joseph Prisk, Oct. 9: The lode in the 40 end, east of Newmans stope, is 5 ft. wide, worth 154. per fathom; a splendid winze, and has the appearance of continuing a great distance. The lode in the rise in back of the 40 is 6 ft. wide, worth 104. per fathom. The lode in the bottom of the said level is 8 ft. wide, worth 154. per fathom. The mine eastward has not looked so well for a considerable time, and as the price of tin advances we shall be in a position to increase our returns.

MELYNDWR.—J. Kitto, Oct. 4: We have not yet intersected the lode in the 25 fm. level cross-cut, and consequently, I have nothing whatever new to report to you. Very fair progress is still being made in driving.

MINERAL CORPORATION OF GREAT BRITAIN.—William Bennett, Oct. 8: HAFSA, HIGH HAFSA, and GREAT HAFSA: There is nothing to call for special remark since my report of last week. Everything is progressing well.—Boring-Machine: All the remaining work we have to do will be finished by the end of the present week, when we shall be ready for the contractors' engineers, who will make the final connections, when we shall start boring. Our new watercourse, from Hafsa to Great D'Eresby, will be finished by this day week.

MONYDD GORDDU.—J. G. Green, Oct. 8: No. 1 stope in the back of the 34 is worth 25 cwt. per fathom. No. 2 stope in the back of ditto is worth 15 cwt. per fathom; working by 12 men, at 75s. per fathom. The 24 to drive west, by six men, at 120s. per fathom; the lode continues without change, and I can only account for it by the western run of ore ground recently discovered in the 12 dipping west the same as the others—we have only a few fathoms further to drive to come under the winze. I have set two men to drive on the cross-branch over the winze in a south-westerly direction; worth 8 cwt. per fathom. Two men to rise in the back of ditto; also worth 8 cwt. per fathom—both these are trials. To sink the winze below the 12, to six men, at 74. per fathom; lode not quite so rich—now worth 25 cwt. per fathom. We are just half way down with this winze; when holed we can commence stoping in this part of the mine—it will take about two months to effect the communication by driving, sinking, and rising. We shall be able to sample 20 tons of lead by the end of the month. Taking into account the new run of ore, and that we have only just commenced stoping in the 24, I consider that the prospects of the mine were never brighter than now.

MORFA DU.—T. Mitchell, Oct. 9: The sinking of the shaft continues to go on satisfactorily. All other points are going on as usual, and without any change worthy of notice.

NEW CATHEDRAL.—Stephen Davey, Oct. 9: Since my last report the 12-in. pitwork has been delivered on the level, and having now dropped 15 fathoms below the adit level we consider this sufficient, at first, with safety, and are now engaged putting in the bucket and plunger set-offs, getting ready the buckets, rods, clacks, and joints, and all that is required at surface for the starting of the engine, which will take place on Saturday. The boiler having been filled we intend lighting the fire to-morrow, and as soon as the engine is set to work and begins to fork the water we shall commence to draw to surface the former pitwork.

PANDORA.—F. Nottingham, Oct. 9: New Lode: The 33 driving south, is yielding some very good quality blende, about 16 cwt. to a fathom, with good stones of lead intermixed. The stope north of No. 1 winze still looks well, worth 10 tons of lead and 1 ton of blende per cubic fathom, or 3 tons for width of the lode.—Goddard's Lode: The rise in the 33 south, under No. 1 winze, is showing some good lead in the north end, but the south end is poor. In another week we hope to communicate this with the winze. The tramroad is laid and in use along the 33, on new lode, and in a few days we shall proceed laying rails in the cross-cut and along the 33 fm. level south, on Goddard's lode. The lode in the 23 (new lode) driving north is at present very shaly, such as we generally see intervening between the runs of ore ground, and I look for such beyond this. No. 2 stope in the 23 is worth 15 cwt. of lead and 5 cwt. of blende to a fathom.—Level, Goddard's Lode: The stope north of No. 3 winze under level has improved a little, worth 15 cwt. of lead and ½ ton of blende to a fathom.—Surface: We have at present fine weather for surface work, and dressing is being pushed on with all speed, with a fair quantity of stuff to work upon. Machinery in usual working order.

PARYS.—T. Mitchell, Oct. 9: The only change we have to notice this week in the 90 south is that we have met with some small strings of sulphur running

almost flat. The ground consists principally of chert intermixed with sulphur and small patches of copper. The 90, west of cross-cut, is looking much the same as last week—presenting a promising appearance.

PATELEY BRIDGE.—C. Williams, Oct. 9: The 40 east on Rake vein is unchanged; the lode in the end is fully 5 ft. in width, and worth 2 tons of lead ore per fathom. The 40 west has further improved; worth 4 tons of lead ore per fath. No change to note elsewhere. Dressing and smelting progressing favourably.

PENHALLS.—S. Bennett, P. Vian, Oct. 4: The lode in the 70 east end is cut beyond the gossan referred to in our last report, and found much the same as on the south side—small, and not of much value. The top lode, by means of this fault, is close to the under part, and contains some good tin stuff, although it is also small. The stopes behind this end maintain their value fairly well, and are worth from 12s. to 14s. per fathom. The driving of the 48 west is resumed, and the lode is worth 5s. per fathom. A stope in back of the 40 is worth 5s. per fath. The rise at this point is poor. The lode in the winze below the 30 is at present unproductive.

RED ROCK.—J. Kitto, Oct. 4: The 23, driving west from the eastern shaft has considerably improved in character since the date of my last monthly report; the lode has already yielded a little lead, and I expect to reach the run of ground soon in the 10 above before the end of the current month. There is a change for the better in the 72, east of old engine-shaft, and the lode is now precisely of the same character as it was in the 80 just before we got into the ore ground, so we are expecting a further improvement shortly. The stopes are looking much the same as for some time past, except one in the roof of the 10, which at present is not so rich as it has been. We have sold to-day to Messrs. Nevill Druce and Co. 40 tons of lead ore, at 9s. 7s. per ton.

ROMAN GRAVELS.—Arthur Waters, Oct. 9: The new shaft is now 14 fms. 1 ft. below the 100. The 80 south is worth 12s. per fathom. The winze below the 80 north is worth 2½ tons per fathom. The rise from the 85 to the 80 meet the said winze is worth 3 tons per fathom. The stopes and other points in the mine as last reported. We have to-day sold 200 tons of lead ore for 1940s.

SOUTH CONDUROW.—W. Rich, W. Williams, H. Abraham, Oct. 7: The lode in the 40, east of King's, carries stones of tin. The 50 east end is in a large kindly lode, and is now worth 10s. per fathom. The rise in the back of this level is worth 12s. per fathom. The 60, west of Plantation shaft, is in a large promising lode, and yields tinstone of moderate quality. The 70 west end has passed through the oblique branch mentioned in our last report, and has again improved, now worth 15s. per fathom. The 70 east, east of King's, is worth 6s. per fathom. The 80, west of Plantation shaft, is worth 10s. per fathom. The 40 end, east of King's, is in a fine-looking lode, and has improved, now worth 12s. per fathom; this is the pioneer level east, as the 70 is west, and are important points in the mine. The 93 east is worth 8s. per fathom.

SOUTH DARREN.—Henry James, Oct. 9: We are making good progress in sinking the shaft; no lead has been taken down for the week. The value is the same as last reported—20s. per fathom. The ends and stopes throughout the mine are without material change. The 30 tons of silver ore and 50 tons of copper ore sold on the 3rd inst., realised 302s. 7s.

SOUTH TOLCARNE.—W. Rich, J. Knottwell, Oct. 7: The rise in the back of the 36 east is in a hard bar of ground, and the lode poor, but the lode in the winze sinking below the adit is opening out wider, and the ground easy for sinking. We have intersected a copper branch in the 36 cross-cut dipping north towards the main lode; this branch is about 6 in. wide, and carries good stones of copper.

TALYBONT.—T. Glanville, Oct. 7: In driving north from the bottom of the winze that is sunk 16 yards below the cross-cut we have cut a branch of lead from 4 to 5 in. wide; whether this is No. 2 lode or a part of the old lode I cannot say at present, but have by the end of the week to let you know more about it. I can assure you I have not seen finer lead in the mine than what we are at present breaking.

TANKERVILLE.—Arthur Waters, Oct. 9: The 220, east of shaft, is driven 8 fms. 4 ft.; the lode to-day is 5 ft. wide, worth 1½ to 2 tons per fathom. We have every reason to believe that this end is now entering the run of ore ground seen in the level (the 206) above. The 220 west is driven 9 fms.; the lode at present is 2½ ft. wide, worth about 10 cwt. of lead ore per fathom. There are eight stopes at work in the 206, one west and seven east of shaft, worth together 14 tons of lead ore, and 18 tons of tin ore. The 132 to the 142, at an average tribute of 5s. 3s. per ton of dressed ore. We are pushing on as fast as possible cutting the ground in the pump sump, preparatory to fixing lift and putting in cistern, &c. We hope to have the lift fixed and in working order next week. The new shaft, to go down from surface on this mine, is sunk 2½ fms. We have delivered the 50 tons of lead ore sold to Nevill Druce on the 2nd inst.

TEESDALE.—J. Slack, West-End Forehead: There is no material change in the lead ore; the vein still keeps getting a little easier, and swerving more to the west. West-End Stope, No. 1: There is a great improvement in the bottom part of this working. Most of the ore is now a very strong body of stone, and the lode in the mine better. If it continues upwards, as it appears to do, it will yield 4 to 5 tons per fathom. West-End Stope, No. 2: This working has continued very poor since my last report, though there is better ore to come to about 4 ft. forward. West-End Stope, No. 3: This working continues very good; they have 12 ft. before them in height—good payable ground that is going to yield a great quantity of lead ore, and fair good ore going still further up. Other two men have been set on here. The rise has been only poor since my last report. There seemed some better ore just setting on by the east cheek, which has been dead all along; another ore was revealed on the west side. East Branch: The vein substance has now been shot off the side, and though it is widening out very much, there was not so much ore at the top of the working as I expected; the bottom part is very promising, and it seems to be making upwards. Old Man: Two more old men will start here on Monday getting ore above the forehead. Dressing going on pretty fairly.

TEMPLE.—Oct. 8: No change worthy of notice has occurred in the underground workings since the date of last report. The stopes continue to yield the average quantity of ore, and the No. 2 level is being driven with all possible speed. At surface previous to this week the weather was particularly unfavourable, but during the present week it has been very fine indeed, and considerable progress has been made with the new wheel-pit and other surface operations. The dressing and other machinery are working satisfactorily.

UNITED VAN CONSOLS AND GLYN.—James Roach, Oct. 9: The deep adit level driving north on the cross-course has been re-set to six men, at 70s. per fm., on the usual conditions. The north lode has not yet been intersected, therefore it must traverse the mountain in a direction a little more north-east than we expected. The cross-course is a little deranged with a great flow of water from the forehead, consequently we believe we are very near the lode. The 50, east of Murray's shaft, on the north part of the lode, has been re-set to drive by two men, at 55s. per fathom; latterly a change has taken place here, that part of the lode now carried in driving chiefly consisting of gossan, containing blende and spots of lead; therefore we expect we are entering into similar ground to that being wrought on tribute some 30 fms. above, a short distance ahead of the present forehead. In the 50 west, at a point 25 fms. from Murray's shaft, the cross-cut alluded to in my last has been driven south on the lode 33 ft., but the south or hanging-wall has not yet been reached. That portion already driven through is charged with lead more or less throughout, and the forehead still yields small quantities of lead and blende, from which water percolates. This drive is again set at 85s. per fathom. The drive around Murray's shaft, in the 50, for tramroad, to facilitate the discharge of stuff, is near completion. All our tributes are still working with energy, and sending to surface quite as much lead as we at first anticipated. Our dressing progress is slow. Mr. Thomas has been here to-day, and is making arrangements for erecting an improved jigging machine. The new wheel, 60 ft. in diameter, is completed, and the launders to convey water thereon nearly so. The balance-bob and new line of rods are also in a forward state.

VAUGHAN.—Oct. 8: In the 30, west of new winze, on south part of the lode, part of lode carried in hard and strong for exploring, and improving in appearance, now yielding from 10 to 12 cwt. of lead ore per fathom. In the winze sinking under the level the part of lode carried for 6 ft. wide is composed chiefly of dark clay-slate, beds of grit, spar, spots of blende, and lead ore, yielding of the latter 1½ ton per fathom. The machinery is in good order, drawing, &c., progressing satisfactorily.

WEST CHAVEN MOOR.—David Williams, Oct. 9: Blackhill adit level has been extended 103 fathoms east of New Blackhill shaft, and is now within a very short distance of reaching the perpendicular of the new west shaft. The vein in the end is 2 ft. wide, composed principally of limonite, sulphate of barites, with occasional stones of ore, and letting out a stream of water, and is evidently draining the workings below the 20 at the new west and east shafts. A stope in back of level is worth 20 cwt. of lead ore per fathom. New West Shaft: A pitch in back of 20, east of shaft, at 5s. per ton of dressed ore. On surface we are preparing a good parcel of ore ready for smelting.

WEST WHEEL TOLGUS.—Oct. 9: The lode in the 155, west of Taylor's shaft, is 4 ft. wide, and yielding 1½ ton of copper ore per fathom. The lode in the 145, west of shaft, is 3 ft. wide, and yielding good stones of ore, but not sufficient to value. No. 2, in the bottom of this level is yielding 2½ tons of ore per fathom. We have cut through the branch in the 135 cross-cut south; it is 20 in. wide, and producing stones of ore; this branch was cut in the 125 about 2½ fms. before we met with the south part of the lode. The ground in the 135 cross-cut inside this branch is very hard, similar to what it was in the level above. The lode in the 125, east of cross-cut, is 8 ft. wide, and yielding 3 tons of ore per fath. The lode in the 125, west of cross-cut, on the south part, is 5 ft. wide, and yielding 4 tons of ore per fathom, but the ground is a little harder for driving. The lode in the winze in the bottom of this level is 4 ft. wide, and yielding 3 tons of ore per fathom. We have cut a little water in the winze, but not enough so far to prevent the men from sinking. There is not much change to notice in any of the stopes in this part of the mine. Richards' Shaft: We have cut the lode in the 65 west of this shaft; it was heaved south by the cross-cut about 5 ft.; it is 2 ft. wide, composed principally of spar, and underlying north about 2½ ft. per fathom. We are still driving south on the cross-course to make certain that this is the main part of the lode. There is no alteration in the lode in the 95 west of shaft. The men have been engaged this week putting in a tramroad in this level.

WEST WYE VALLEY.—John Kitto, Oct. 4: The driving of the 64, east of Brooke's shaft, progresses satisfactorily, and the part of the lode taken by the driving lode, promising for the production of lead ore; there is a little more lead standing by the side, the value of which we shall prove by cross-cutting. I have temporarily suspended the sinking of the winze below the 52 east, in consequence of an increase of water, which will undoubtedly be drained from it by the 64 when it is further advanced, and have put the men to drive the 64 fm. level, west of Brooke's shaft, which in my opinion is a good speculation, as the lode showed good indications in this direction in the upper levels. There is no change worthy of remark in any other part of the mine.

WHEAL CREBOR.—J. Andrews, Oct. 9: Setting Report: At the 120, west of winze, we are still engaged in crossing the lode, which will be completed to the bottom of the 120, also to the south wall in a day or two, and which is set to 12 men, at 4s. 10s. per cubic fathom. The lode east of cross-cut is 20 ft. wide, and is worth from 80s. to 90s. per fathom. West of cross-cut at the same level the lode is worth 60s. per fathom. To drive the 108 east, by four men, at 7s. per fm.; lode 2½ ft. wide, but is at present poor. To stop the back of the 108, by four men, at 4s. 10s. per fathom; lode 5 ft. wide, and worth 12s. per fathom. To drive the 108, east of cross-cut, on new lode, by six men, at 6s. per fathom; lode 5 ft. wide, and worth fully 40s. per fathom. To rise and stop in the back of the 108, on the new lode, east of cross-cut, by six men, at 5s. per fathom. The lode in the length of the stope is worth on an average 70s. per ton. To drive the 48 south, by four men, at 9s. per fathom; at this point no more lode has yet been met with. To sink the new shaft, by nine men, at 13s. per fathom; lode 18 in. wide, yielding a little copper and blende, but nothing to value.

WHEAL CREBOR.—John Andrews, Oct. 7: The new lode in the 108, east of

cross-cut, has improved since yesterday, and is now worth 50s. per fathom. The rich part of the lode is to-day 8 or 9 in. wider than when Capt. Holman inspected the mine yesterday. No other change.

WHEAL GRENVILLE.—T. Hodge, Oct. 9: In the 165 east we are cross-cutting through the lode, and so far as seen, it is about 10 ft. wide, producing low-price stamping work. In the 150 east the lode is improving, now worth 7s. per fm. The 140 east is worth 8s. per fathom. We commenced to work our plunger-lift on Monday morning last; it is working well.

WHEAL RUSSELL.—J. Bray, Oct. 9: I am pleased to say the lode in the 55 is improved within the last few days in size and character; worth 10 cwt. of good copper ore per fathom—from the present appearance we may expect something good. The lode in the rise above this level is 4 ft. wide, thickly spotted with copper, and looking very promising.

WHEAL UNY.—Wm. Rich, Mathew Rogers, Oct. 4: We have passed through several branches containing tin in the 172 cross-cut south, but no lode of importance yet met with. The lode in the 172 west is worth 10s. per fathom. The 160 end, east of Gooding's shaft, carries good stones of tin. The 160, west of incline shaft, is worth 12s. per fathom.

WYE VALLEY.—John Kitto, Oct. 4: At the 46, east of the engine-shaft, we are driving the cross-cut upwards on the ground, and hope soon to meet the productive part of the lode. In the sinking below the intermediate level the lode still looks very well, and its produce is fully up to the last valuation—viz., 2 tons of lead ore per fathom. The tribute department is yielding about its usual quantity of ore. Since my last report we have sold to Messrs. Walker, Parker, and Co., 50 tons of lead ore at 9s. 6s. per ton, and we are in full course of dressing other parcels of lead and blende, which we shall sample and sell as soon as possible.

THE LATE CAPT. THOMAS ROBERTS.

It is with great regret that we have to announce the death of Capt. Thomas Roberts, resident manager of the Pestarena Gold Mines in Italy. Capt. Roberts was born at Perranporth, in Cornwall, and after working as a tributer at Great St. George and other mines set out for the United States at the age of 19. He turned his attention to gold mining in North Carolina, and was subsequently engaged in cobalt mining in Connecticut till 1857, when he returned to Europe. In 1858 he proceeded to Northern Italy, and making that country his home became manager of several lead, copper, and gold mines. He was chief mine captain at the Pestarena United Gold Mines from the commencement, and in 1874 was appointed resident manager by Messrs. John Taylor and Sons. He held this office till his death.

To Capt. Thos. Roberts, and his brother James, belongs the credit of having invented the so-called "Francfort Mill," an improved form of arrastra, which is found to be most successful in extracting the gold from the pyritic Italian ores. Capt. Roberts was thoroughly fitted for his post; he was not only a practical miner but also a good engineer, and well versed in putting up machinery. A more thoroughly trustworthy and conscientious man could not be found, and Capt. Roberts earned the esteem of all who knew him. His loss is a severe one both to his family and friends, and it is certain that the Pestarena Company can never have a manager more devoted to its interests. Capt. Roberts, after suffering for many months from an internal tumour in the chest, resolved in August last to return to England, whither he had previously sent his family, in order to obtain advice from English doctors, and the careful nursing of his wife and daughters. All their efforts, however, were unavailing, and Capt. Roberts succumbed to the malady on Sept. 28, in his 55th year. He leaves a widow and seven children.

FOREIGN MINES.

RICHMOND CONSOLIDATED.—Telegram from the mine at Eureka, Nevada: Week's run, one furnace, \$33,000, from 483 tons of ore. Refinery, \$35,000.

R. Rickard, Eureka, Nevada, Sept. 17: The 200 cross-cut has been drifted 24 ft. without any material change in the ground. Work in the end of this drift has been suspended for the time being, and the men put to drift on ore indications we passed through about 20 ft. from the present end. The 600 west cross-cut from south fissure drift has been advanced 10 ft.; the ground is harder, consequently less ground has been driven during the past week. A rise has been started in the back of the 600 west drift, and is now up 23 ft. all the distance in low grade ore, and is looking very promising to open pay ore shortly. The winze below the 600 is down a total depth of 84 ft.; the present bottom is looking very favourable for opening into ore. The ore body in No. 13 chamber is not opening out quite so well as we expected; as far as we have stoped the ore body is short. The 800 west adit present in limestone of very good appearance. All other parts of the mine are without any alterations. The machinery both in mine and furnaces is working very well, with the exception of one of the blowers, with which we had an accident, which obliged us to stop it to repair.

DON PEDRO.—Capt. Vivian reports, under date Sept. 10, as follows: Mine: No. 1 Incline Sump-Shaft: Repairs here are still being carried on with a full force of men, and without interruption. We are making fair headway in No. 2 incline driving shaft, and intend to communicate same with the 40 cross-cut before forking the water deeper in No. 1 incline sump-shaft, so as to prevent the same from being carried by the water through said cross-cut, which would be very injurious to the pitwork. New Lode at Bryant's: In the last 9 ft. stoping we have met with crushed ground, which is no doubt caused by the old workings below; this of course has disordered the lode for the time, also the vein, but I presume it will only be temporary. The pitwork and all other machinery throughout the mine is in good condition, and working well.

Telegram dated Rio, Oct. 9, received Oct. 10: Produce for the month (September) 1300 tons.

COLOMBIAN HYDRAULIC.—W. B. Welton, Aug. 9: Malpasco: Run No. 60 from July 18 to Aug. 16, 29 days, during which washing has been carried on for 515½ hours, has produced from the upper portion of the sluice \$897.32 (180s.), the cost for this period being \$897.90. The gold obtained from this run was in very coarse grains, and the amalgam produced 38 per oz. The gravel has not yet become so soft as we were led to believe it would, being as yet soft in parts, hence the low returns; there is, however, a considerable improvement in the produce, and we may look for better results as we get more ahead. At one point the tops of granite boulders have appeared, and this indicates that the bed-rock cannot be far off. We have evidently crossed the channel, and are reaching the rise in the south side. Both sides of Malpasco channel can now be seen, and judging from the slight curvature of the beds of gravel, the depth of the centre of the channel cannot be very great. In my opinion there appears to be every reason to believe that by bringing in the sluice 25 ft. below its present level the entire deposit may be bottomed. I am very anxious to sink a shaft and ascertain the depth of the deepest part of the channel, but there has been very few peons, and so many large rocks to move, that I have not yet been able to commence this work. The water was turned on the 14th inst., and the water was turned on the new opening, and since then the bed-rock has been uncovered, and the whole of the gravel from the bed-rock to the top of the bank can be seen. At this point there is no pipe-clay, and the gravel is very similar in appearance to that at Malpasco. A delay of ten days in getting the water in was caused by a very hard horse of bed-rock presenting itself on the line of the sluice; this rock was so hard that great difficulty was experienced in boring it. Owing to this, and the expense and delay in bringing over the old sluice on men's shoulders, both the cost and time expended in opening at the new point has been greater than anticipated. I must, however, hold out hope, as the water was turned on the 14th inst., and the sluice, distributor, and both machines have been properly fixed, and 290 ft. of sluice put in. For the present I fear we shall only be able to run by day, as the whole of ground was covered with very large trees, several of 4 ft. in diameter, and it will take some time to remove these, and get a clear space to cave the gravel on.

SENTEIN.—Oct. 4: The manager reports as follows:—During the week we have had no change at the mine worthy of remark. Have broken 120 tons of silver-lead and blende ore, and we should have broken a greater quantity, but many of our miners have been engaged putting in timber in different parts of the mine and laying the tramroad in the 85. Barle level, about 60 fms. of which is now completed, and we have about 25 fms. more to place. We are still driving the cross-cut to the lode in this level, but up to the present we have not reached the main part of the lode. At La Souquette we have fixed the windlass, and have commenced to draw the debris and water from the winze. We hope very shortly to be able to report what is in this part of our concession. There has been delivered to the dressing-floors this week 209 tons of ore.

NO SAFETY IN SAFETY-LAMPS.—REMARKABLE MINING REVELATIONS.—Some remarkable revelations respecting the ability of miners to tamper with safety-lamps, which hitherto appeared to have escaped the notice of magistrates, transpired during the hearing of a case before Mr. J. Kaye and Mr. J. Dyson at the Barnsley Town Hall. A youth named John Gooch, aged 16 years, a hurrier in the employ of Messrs. Pope and Pearson, owners of the Woolley Colliery, was charged with unlocking a safety-lamp, and exposing the light, in a mine exclusively worked with safety-lamps, contrary to the rules.—Mr. Parker, solicitor, prosecuted.—Charles Waring, the lamp inspector at the colliery, deposed to being in the workings on the 26th ult. when he met a lad named John Adshad, and found that he had a lamp which was not locked. He asked if the lamp had been extinguished. He replied it had, and that defendant had re-lighted it by opening it with a lamp hook.—In answer to Mr. Kaye witness said Davy lamps were used, and any man could unlock them, light them, and lock them again without his knowing, provided they screened their light.—Mr. Kaye said that it was a most important statement. He had never known that safety-lamps could be opened and re-locked by the men in the way the witness described.—In answer to Mr. Dyson, witness said the lamp was taken to the lamp station, and there re-lighted. Mr. Kaye said it was quite a new feature in the Davy lamp to him. There appeared to him to be no safety in a Davy lamp if a man could open it and lock it again with the lamp hook. They might put on what penalty they choose; it would not prevent their doing such an act, when they knew they would not be detected.—The Bench instructed the clerk to write to Mr. F. N. Wardell, Her Majesty's Inspector of Mines for Yorkshire, calling his attention to these statements.—In answer to the Bench, witness said that Glanny lamps were used at the pit, but they could be opened and locked in the same way.—Mr. Kaye said he considered it a most important case, as he always thought they could not unlock them in that way.—Mr. Parker said he was under a similar impression.—A lad named John Adshad spoke to seeing defendant light the lamp, but should not know how he unlocked it.—The Bench believing that an example ought to be made, committed defendant for the month, and if it had not been for his youth they

would have sent him for the full term of imprisonment. They were of opinion that no inspectors could prevent explosions occurring if lamps could be opened and lighted in the way described.—*Manchester Courier*, Oct. 7.

WHEAL BASSET.—STARTING OF NEW 80-IN. ENGINE.—A fine 80-in. engine by Messrs. Harvey and Co., of Hayle, was started at North Basset on Tuesday, and named "Waddington's Engine," in honour of the gentleman through whose exertions the mine has been set going. Upon the steam being admitted the engine went steadily off, and pumping was commenced, all present expressing the warmest satisfaction, and seconding the wish of Mrs. Bone, who christened the engine, that the engine might "be the means of giving employment to miners for generations and large profits to the adventurers and to the lord." It is a powerful 80 in. engine, with a 10 ft. stroke in the cylinder, and 9 ft. in the shaft, and has cost about 1840s. It is said to be the cheapest and best engine in the county, and it certainly does the highest credit to the makers. Mr. Waddington, in reply to the toast "Success to Waddington's Engine," said that he had spent some time in searching for the last report on North Basset set, and the last one he found was dated June 19, 1866, the month following the Overend and Gurney failure. This failure created so great a panic that everybody wishing to get out of everything involving the least liability, and he remembered buying 100 shares in Wheal Agar, at 5s. per share. Then came the North Basset collapse, and he now had to thank Mr. Bawden, of West Basset, for a remark which had guided him very much in all that he had done, and it was this, that when the order came down to stop North Basset, Capt. George Davey was startled and surprised, and exclaimed, "The best mine in the district is stopped." Bearing this in mind, and going through the reports which he had seen, he never had been able to understand what could have induced people to give up so valuable a property. Seeing what a splendid channel of ground they had there, he could not refrain from saying that the man who would not spend his money there had no love of mining and no love of enterprise. For himself he determined that he would see the thing carried through, even if he had to bear the whole burden.

Original Correspondence.

CARDIGANSHIRE MINING—THE CAMBRIAN MINES DISTRICT.

SIR,—The discovery of a rich and extensive deposit of copper at Esgair-fraith, as referred to by your correspondent "W. L." in last week's Journal, must go a long way to dispel the illusion which is commonly entertained that the clay-slate of Cardiganshire is not "congenial" to copper. I think it will be found that the whole of the belt of ground extending north and south of the Cambrian mines is more or less copper producing. The lodes cross this belt at right angles to it, bearing principally east and west, and indications of copper are to be seen in many places at surface. It may not be generally known that a very rich deposit of copper was discovered near Glaslyn Pool, and worked by some local parties about 20 years ago. This deposit, although in the neighbouring county, is only some three or four miles to the east of the Cambrian Mines, and in apparently the same stratification. About 100 tons of copper were broken from very shallow workings, and simply "bucked" down in a very primitive fashion, fetching (I was informed by one of the owners) 20s. per ton, being at the rate of 16s. per unit—the then price of copper. These workings were abandoned simply because they got below water level, but the course of ore was seen going down in the bottom of a winze as good as ever, and I am of opinion that by driving west on the course of the lode another rich deposit of ore will also be met with.

Now, at Esgair-fraith Mine there is a level about half a mile or so. Further east than the present mine, and in this level, which is very shallow, there is to be seen one of the finest lodes a Cornish miner would wish to see. It is 10 ft. wide or so (I am speaking from memory), and filled with mudstone; at the time I saw it I strongly recommended the then proprietors to sink a winze on it for a few fathoms, to see what it would produce in depth. This level could be driven up into the old mine; of course, it would be some distance, but it would gain back by going west, and would probably pay for itself, and even lay open backs for stoping. I do not for a moment suggest that the present workings ought to be stopped. I merely mention the fact of this level to show that there is good cause to believe the copper-bearing stratum extends for a long distance east of the present Esgair-fraith Mine. In the other discovery which I have mentioned—Glaslyn—little or nothing has been done for some years, but a good deal of money was spent in developing another lead-bearing lode, but with the usual fatuity which seems to accompany mining enterprise they have driven a deep cross-cut to within about 5 fms. of what at surface appeared to be a splendid lode, containing solid lumps of lead, and then stopped just when they were on the eve of success. I believe these workings are about to be resumed, but, at the same time, I hope the copper mine will be given a fair trial, both by driving eastward and by sinking.

I might mention that copper has also been found at Cafartha Mine, which adjoins to the south of these lodes, and is on one of the Cambrian lodes, most probably the same lode at Esgair-fraith; this lode also passes through the Glaslyn set, and in common with the parallel lodes—Esgair-galed and Dylife—could be cut by a deep cross-cut at a back of over 100 fms. Capt. Jenkins told me that the Glaslyn Company intended to commence the cross-cut. This property is very extensive, comprising some 1800 acres of mineral lands, and is traversed by seven well-known mineral lodes, therefore to give it a fair trial a large capital is necessary. There is ample water-power, and, therefore, boring machines worked by water-wheels ought to be introduced, and including the expenditure necessary for crushing and dressing purposes a working capital of from 20,000s. to 25,000s. ought to be provided, and with minerals rising in price as they are now doing rapidly, this outlay would yield a very handsome dividend.

Returning to Cardiganshire—whose ability to produce copper I really started this letter to vindicate, and I hope some of your correspondents will back me up—there has been some very nice copper found at Blaen Caelan Mine, which is to the west of the Cambrian Mines, and there is a very fine copper lode also to be seen at the old Camdur Mawr Mine, but it has never been fairly tried in depth at all. One of the old agents told me many years ago he believed an immense deposit of copper would be found underneath the immense mass of gossan to be seen at surface, and, in fact, the very rocks are to be seen cropping out at surface, with pieces of lode attached, filled with prills of copper ore. This great lode is the Bronfloyd lode, and may be traced eastward for miles through Llechwedd Mawr (Montgomeryshire), Hyddfen, &c., towards the Van Mine, if not into it. There is situated between this lode and the Cambrian lodes are two splendid lodes—South Cambrian and another; I forget the name of it, but I think these lodes are lead-bearing lodes. I wish Capt. Glanville (Cambrian Mines), who is an old Cornish miner, and really knows something about copper lodes, which local agents do not, would give us his ideas as to whether Cardiganshire may claim to be a copper-producing district generally, or if he thinks that Esgair-fraith, which I know to be as rich as your correspondent "W. L." describes, is an exceptional instance.—Oct. 9. CEREDIGION.

[For remainder of Original Correspondence see to-day's Supplement.]

STEELS AND STEEL-LIKE METALS.—The invention of Mr. R. BROWN, of Ayr, has for its object to obtain improved qualities of steel or steel-like metals by processes which are applicable to various qualities of cast-iron, and it consists mainly in combining with the iron chromium, or tungsten, or manganese, or any two or all three of these metals, the combination being brought about by mixing with the cast-iron when in a melted state certain salts or compounds of the said metals, which compounds whilst facilitating the attainment of the main object are also expected to have the effect of eliminating impurities, such for example as phosphorus and sulphur from the iron when such impurities are present. The compounds to be used in carrying out the present invention are bichromates of potash and soda, chromates of potash, soda, lime, and magnesia, chromic acid, sesquioxide of chromium, permanganates, and manganates of potash and soda, and tungstates of potash and soda. In carrying out the invention, cast-iron, or it may be partially formed steel, which may have been previously treated in any known way, may for the purposes of this invention be contained in a converter, such as is used in the Bessemer process, or in a reverberatory furnace, or in a crucible, or in any for-

In Lead Mine Shares there has been considerable activity, and the unexpected declaration on Tuesday of a dividend of 5s. per share on Great Laxey, free of income tax, payable on Oct. 21, has given a still

greater impetus to the already improving market. The shares are now quoted 16½ to 17½, and with regard to the meeting a correspondent writes that the report (published in another column) of the proceedings "must be read with pleasure by the shareholders, and the remarks of Mr. Peter Watson (the London director) regarding the mines and lead trade, will prove highly instructive and interesting; and since the meeting the rise in the price of lead is already 20 per cent. The shareholders may rely with confidence on the present director's management, and it is to be hoped that from the next quarterly dividends will be gradually increased."

Mineral Corporation, 11½ to 12½; everything at the mines is progressing as satisfactorily as usual. Capt. Bennett reports that all the remaining work in connection with the boring machinery will be finished by the end of the present week, when they will be ready for the contractors' engineers, who will make the final connections, and boring will be at once commenced. The commencement of boring operations at this company's mines is looked forward to with much interest in the district, especially as the Schram machine, which was so favourably mentioned last week in connection with the Park Company's mines, near Wrexham, is that which has been adopted. The greater rapidity of working with machine-drills, coupled with the improving price of lead ore, is regarded as very encouraging for those concerned. The new watercourse from the Hafna to the Great D'Eresby will be finished by next Wednesday.

Gwynnynydd, 4 to 4½; the drivings in the bottom of the mine and in the upper measures look like an early discovery of rich lead ore.

Tankerville, 4½ to 5; rapid progress is being made in the sinking of shaft on the pump-sump lode, on which lode below 40 ft. it is worth 3 to 4 tons of lead ore per fathom. A considerable improvement has taken place this week in the bottom levels driving from Watson's shaft on the Tankerville lode.

Frongoch, 2 to 2½; at a meeting, held on Monday, it was resolved to issue the reserved shares to members of the company at par, and the shareholders present expressed themselves well satisfied with the progress made at the mine. It will be seen from the report of meeting, published in another column, that good discoveries of ore have already been made: 150 tons of lead and 100 tons of blende have just been sold at remunerative prices, and the manager expects to make regular monthly sales of about 70 tons of each henceforth, with a steady increase as the works progress. The sales from this mine in the 35 years ending 23rd were no less than 42,000 tons of lead, and since the present company have been in possession good discoveries have been made, there being no less than 30 stopping places now in operation, and the lode in the bottom or the 154 ft. level is valued at 3 tons per fathom. The manager stated that present returns will yield a fair profit, with the certainty of a good increase at no distant date.

Grogwinion, 2½ to 3½. The monthly report announces an important improvement in the deep adit cast, there being a branch of lead fully 18 inches wide and rich in quality. Other points in the mine are looking well; the usual quantity of lead is being sold, and prospects are excellent. Caron, 1½ to 2½. The lode in the bottom level shows a great change for the better, and is yielding excellent lead. Stopping will be commenced forthwith, and sales of lead on an increased scale will shortly be made. Wye Valley, ½ to ¾. These shares have been offered by needy holders, but the accounts from the mine are good, the report stating that the lode in the bottom is very productive, and prospects of an early improvement good. West Wye Valley, ½ to ¾. No fresh news of importance. The deep level shows signs of early improvement, and discoveries are believed to be close at hand. Red Rock, 1½ to 2; the 23rd west of eastern shaft, has much improved, and is yielding lead, with every sign of further improvement. There is also a change for the better at the 72 cast, which is now close upon the ore ground passed through in the levels above.

Leadhills shares have improved to 2½ to 3. The mines, it is reported on reliable authority, never looked better, and returns of lead increasing. This with the continued advancing price of lead ought soon to make them as valuable as ever—6½ to 7½ per share.

The subjoined is the list of the closing quotations:—

Assheton, ¼ to ½; Carn Brea, 48 to 50; Devon Great Consols, 4½ to 5½; Dolcoath, 40 to 42; East Caradon, 1 to 1½; East Van, 2½ to 3½; Gwynnynydd, 4 to 4½; Great Laxey, 16 to 17; Hingston Down, ½ to ¾; Leadhills, 2½ to 3½; Marke Valley, 1½ to 1¾; Pateley Bridge, ¾ to 1; Penrith, 1½ to 1¾; Roman, 5½ to 6½; Tankerville, 4½ to 5½; Tincroft, 12½ to 13; Van, 17 to 18; West Bassett, 7½ to 8; West Olivet, 4 to 4½; Wheal Crebor, 3½ to 4½; Wheal Grenville, 4½ to 5½; Almada and Tinto, ¼ to ¾; Birdseye, ¾ to 1; Blue Tent, 2½ to 3½; Canada Gold, 2 to 2½; Cape Copper, 2½ to 3½; Chontales, 3½ to 4½; Colorado United, 1½ to 1¾; Don Pedro, 1½ to 2; Exchequer, ½ to ¾; Frontino and Bolivia, 2½ to 3½; Huilafall, 1½ to 2; Javali, ¼ to ½; Kapanga, ¼ to ¾; New Quebrada, 2½ to 3½; Nouveau Monde, ¾ to 1; Oregon (preference), 2 to 2½; Pestarena, 3s. to 3s. 6d.; Placerville, 2 to 2½; Richmond Consolidated, 7½ to 8; Ruby and Dunderberg, 2½ to 3; St. John del Rey, 270 to 275; Sierra Buttes, 1½ to 2; United Mexican, 3 to 3½.

CORNISH SHARE MARKET.—Mr. JOHN CARTER, Camborne (Oct. 9), writes:—Great excitement prevails in the Cornish Share Market, and a further rapid rise has taken place in prices. In Wednesday evening's market, however, a slight relapse occurred, but this has been fully recovered in to-day's market, and there is again a strong demand for all shares. The Tin Standards were advanced 2s. on the 6th, and again 3s. on the 8th inst. Dolcoaths advanced to 43, 44; Carn Brea, to 47, 48; East Pools, to 17½; West Bassett, to 8½; West France, to 9, 10; Tincroft, to 12½, 13½; Wheal Peevors, to 14½, buyers; and South France, to 3½, buyers. The numbers are as follows: Four o'clock this afternoon, Botallack, 50 to 60; Carn Brea, 47 to 48; Cook's Kitchen, 2½ to 3; Dolcoath, 43 to 44; East Lovell, 3½ to 3¾; East Caradon, 1 to 1½; East Pool, 17½ to 17¾; Marke Valley, 1½ to 1¾; Mellanar, 3 to 3½; New Cook's Kitchen, 1 to 1½; South Condurrow, 13½ to 13¾; South France, 9½ to 10; Tincroft, 12½ to 13½; West Bassett, 8 to 8½; West France, 9 to 10; West Peevor, 4½ to 4¾; West Seton, 39 to 41; West Tolgus, 26 to 28; Wheal Agar, 3½ to 4; Wheal Bassett, 2½ to 3; Wheal Grenville, 4½ to 5½; Wheal Jane, 3½ to 3¾; Wheal Kitty, 1 to 1½; Wheal Peevor, 14 to 15; Wheal Uny, 1½ to 1¾.

—Mr. J. H. REYNOLDS, Redruth (Oct. 9), writes:—Tin shares in demand at higher prices, consequent on the further rise of 5s. on the tin standards. Carn Brea advanced to 50, buyers, and Dolcoaths to 44, at which price a large number of shares have changed hands. West Setons, West Bassett, West France, Wheal Peevors, West Peevors, and Wheal Bassett in request at quotations. Annexed are the closing prices at Four o'clock:—Carn Brea, 47 to 48; Cook's Kitchen, 2½ to 3; Dolcoath, 42 to 44; East Caradon, 1 to 1½; East Lovell, 3½ to 4; East Pool, 16½ to 17½; Herodfoot, 2 to 2½; Marke Valley, 1½ to 1¾; Mellanar, 3½ to 4; New Cook's Kitchen, 1 to 1½; South Caradon, 50 to 55; South Condurrow, 13 to 14; South Crofty, 7½ to 8; South France, 9½ to 10; Tincroft, 12 to 13; West Bassett, 8 to 8½; West Olivet, 4 to 4½; West France, 9 to 9½; West Peevor, 4½ to 4¾; West Seton, 39 to 41; West Tolgus, 26 to 28; Wheal Agar, 3½ to 4; Wheal Bassett, 2½ to 3; Wheal Grenville, 4½ to 5½; Wheal Jane, 3½ to 3¾; Wheal Peevor, 14 to 15; Wheal Kitty (St. Agnes), 1½ to 1¾; Wheal Uny, 1 to 1½; Wheal Orebor, 4½ to 5.

INSURANCE SHARES have, according to this evening's report of Mr. W. L. WEBB, of the Stock Exchange and Finch-lane, been dealt in as follows: Atlas, 16½ to 16¾; Commercial Union, 18 to 18½, ex div.; Imperial Life, 22½; ditto Fire, 15½; Law, 13; Legal and General Life, 12; London, 59½ to 59¾, ex div.; London and Provincial, 4; Law Fire, 13; Marine, 83½ to 84¾; Ocean, 61½ to 62¾; Phoenix, 31½; Queen's, 3½; Union, 350; Sun, 443½ to 445; and Universal, 10½ to 10¾. All insurance shares have been bought at slightly increased prices. For closing prices see list on last page of Journal.

GAS SHARES.—The principal business in these shares, according to this evening's report of Mr. W. L. WEBB, of the Stock Exchange and Finch-lane, has been in Bombay (Limited), 5½ to 6½; Commercial, 189 to 191; Continental Union, 18½ to 18¾; Gas Light and Coke, A, 179½ to 180½; ditto, ditto, 5 per cent. pref. A, 5th issue, 16½; ditto, ditto, C, 10 per cent. pref., 20½; ditto, ditto, D, 10 per cent. pref., 208 to 209; ditto, ditto, 10 per cent. pref., 209 to 209½; Imperial Continental, 178½ to 179; London, 177; Monte Video, 13½; Oriental, 6½; Para, 4; Phoenix, 33¾; ditto, 1876, 33; ditto, New Maximum 7½ per cent., 112; Rio de Janeiro, 26½ to 26¾ ex div.; South Metropolitan, 19½; Surrey Consumers, 19; Surrey, 18½ to 19. There has been very little doing in gas stocks. Imperial Continental have been enquired for. For closing prices see list on last page of Journal.

TRAMWAYS.—The closing prices of this evening, as quoted by Mr. W. ABBOTT, of Tokenhouse-yard, are given in tabular form in the last page of the Journal. There will also be found in another column an extract from his monthly Circular.

* With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—Original Correspondence: Noxious Gases and Explosions in Collieries; Pure Air and Safe Working (N. Job); Trial of Safety-Lamps in Wigan; Immense Advantage in the use of Gellivare Steel in Shipbuilding (W. J. Thompson); Canadian Mining Notes; Canada as a Field for English Ironmasters (H. C. Jones); New Zealand Kapanga; Treatment of Tin Ores (W. Nance, C. Thomas); Mining Prospects in the Future (R. Tredinnick); the Unwrought Mineral Ground of Cornwall—the Gwennap District (C. Bawden); Cornish Mining (C. Bawden); Wheal Orebor (A. Thomas); Orebor Mine, and the "Beare"; Mining in the Llanarmon District; Mining in Llanarmon; Lead Mining; Foreign Mining and Metallurgy; the Scotch Mining Share Market; Meetings of Public Companies; Sierra Buttes, London and California, Great Laxey, Frongoch, Avonside, &c.

GLASGLYN CONSOLIDATED MINES.—We observe by a letter from a correspondent that these mines, which have now been for some time idle, are in consequence of the advance in the price of copper, and also, no doubt, owing to the success which has attended the working of Esgrair Fraith mine, about to resume work. These mines, although situate in a well-known mineral belt, have never had a fair trial. Spirited cross-outs have been commenced to cut the lodes at a great depth, but have been abandoned, apparently on the eve of success, and the large sums expended consequently lost; but it is to be hoped that sufficient working capital will now be provided to give the mines that fair trial in depth that the richness of the lodes at surface fairly entitle them to.

THE GREAT MINING DISTRICT OF CORNWALL.—In another column will be found an advertisement of a map of one of the most interesting mining districts in the county of Cornwall—that extending from the western extremity of the parish of Camborne to Chacewater, embracing all the mines in Camborne, Illogan, Redruth, and Gwennap, and part of Kenwyn. Now that the mining interest is reviving, and several of the mines opening up successfully—Wheal Peevor, &c., to wit—a map showing the relative positions of all the mines embraced in that large area must be desirable to the shareholders and to all who take an interest in this important branch of industry. Mr. Symons has rendered service to the mining community by the publication of the

maps of nearly all the mining districts in Cornwall. The present map, from its comprehensive character, is intended to be the most valuable of the whole series, and it is to be hoped that the author will receive an amount of patronage which will compensate him for his labour and expense in its production.

LEAD.—A considerable rise in the price of this metal is considered to be imminent, and mines having parcels of ore for sale are advised to hold them over for a week or so. Large orders have come in from abroad, and stocks in hand with the smelters are undoubtedly low, so that however reluctant they may be to do so buyers will be compelled ere long to concede a substantial advance. English pig is likely to see 16½ per ton before the month is out, and a much greater rise may be expected in the spring, when building operations commence, it not earlier. In anticipation of this an advance in the shares of productive mines has already taken place.

NEW CATHEDRAL.—The contractors having finished the erection of the 60-inch engine at this mine, it will be started this day (Saturday).

WHEAL GRENVILLE.—We are informed by the secretary (Mr. Mitchell, of Union-court, Old Broad-street) that a parcel of Grenville tin was sold on Tuesday for 47½ 2s. 6d. per ton, being the highest price realised by this company since 1875. The Chairman of Wheal Grenville stated at the last general meeting, on Sept. 25, that he believed the price of black tin would be 50½ per ton before 1880. That gentleman's opinions seem to be very well founded, and we congratulate him. As regards his latest statements about Grenville, he has evidently not been "too sanguine."

EAST LOVELL.—The lode in the shaft improves. Investors should bear in mind that present prices (say 3½) is but 4000l. for the whole mine, which is thoroughly equipped with machinery.

MARK VALLEY.—At the meeting, on Wednesday, all costs were charged close up, and the balance in favour of the mine was 940l. The appearances at the 90 ft. level are of the most promising character, and a discovery is daily expected. The advance in the price of copper will be a great benefit to this mine, which sells about 250 tons a month.

TAMAR SILVER-LEAD MINE.—This company has just sold its first parcel of fluor-spar (120 tons), which realised a good price. According to Prof. W. White's assay, it contains 8 ozs. of silver per ton. The lead raised from the Tamar Mine is also exceedingly rich in silver, yielding over 34 ozs. per ton. The 27th shaft is being driven on the course of the celebrated South Tamar lode, and the agent confidently expects to have to report a valuable discovery of silver-lead in this direction shortly.

GERMAN TIN DEPOSITS.—Two valuable and interesting papers by Dr. E. REYER have been reprinted from the Transactions of the Austrian Royal Geological Society (Jahrbuch der k.k. geol. Reichsanstalt) the one über die Tektonik der vulcanischen Böden, and the other on the Tektonik der Granitgänge von Neudeck und Karlsbad. Appended to the latter is a history of the tin mining operations in the Erzgebirge. The character of the ore from the several deposits is described, and details of the mode of working are given. The mines have been worked but on a small scale from the beginning of the 17th century, and there appears to be plenty of tin ore worth from 150 lbs. to 200 lbs. of tin (the German pound is half a kilogramme, and, therefore, rather heavier than the English) from a little over 200 cubic feet of stuff, or at the rate of about 0.5 per cent. of tin. The property in the hands of an English company, which acquired it for 130,000 l. (12,000,000) in 1878, is being worked energetically, but they appear to have encountered difficulties in connection with fuel supply, &c., which have still to be surmounted. This and 12 or 14 other properties which Dr. REYER refers to could no doubt be profitably worked if purchased at the prices from which they could be obtained from the present holders, and given the advantage of energy and capital. Dr. REYER's paper on Banks and Biligton has also been separately printed from the Oest. Zeitsch. für Berg und Hüttenwesen, and contains abstract of the recent volumes of the Jaarboek van het Mijnwezen Ned., &c., which have already been fully noticed in the Journal.

THE COAL TRADE.

Mr. J. R. Scott, the Registrar of the Coal Market, has published an export list, showing the distribution of coal imported into the port or district of London by sea, rail, and canal, and afterwards exported coastwise or to foreign ports, or sent beyond limits of London district by rail or inland navigation, during September, 1879:—

EXPORTS.	
Railway-borne coal passing "in transitu" through district.....Tons	88,886
Sea-borne coal exported to British Possessions, or to foreign parts, or to the coast.....	45,805
Ditto, sent beyond limits by railway.....	20,803
Ditto, by canal and inland navigation.....	1,808
Railway-borne coal exported to British Possessions, or to foreign parts, or to the coast.....	35,965
Ditto, by canal and inland navigation.....	206
Sea-borne coal brought into port and exported in same ships.....	1,817
Total quantity of coal conveyed beyond limits of coal duty district during September, 1879.....	195,090
Ditto, September, 1878.....	168,301

Comparative Statement, 1878 and 1879.

Total distribution of coal from Jan. 1 to Sept. 30, 1879.....	1,687,893
Total distribution of coal from Jan. 1 to Sept. 30, 1878.....	1,522,530

Increase in the present year.....165,363

IMPORTS.	
By sea.....Ships.....Tons.....	By Railway and Canal.....Tons cwt.
Newcastle.....193.....166,487	London & North-Western.....118,363 19
Seaham.....47.....27,375	Great Northern.....71,657 0
Sunderland.....111.....72,139	Great Western.....105,575 0
Middlesbrough.....15.....4,082	Midland.....171,580 0
Hartlepool.....84.....30,409	Great Eastern.....52,050 19
Scotch.....11.....5,474	South-Western.....2,074 7
Welsh.....6.....2,807	South-Eastern.....1,738 16
Yorkshire.....13.....852	Grand Junction Canal.....255 5
Small coal.....11.....4,556	
Cinders.....1.....99	
Foreign.....1.....50	

Total.....493.....314,430	Total.....523,295 6
Imports—Sept., 1875.....410.....261,282	Imports during Sept., 1878.....462,452 3

Comparative Statement, 1878 and 1879.

By sea.....Ships.....Tons.....	By railway and canal.....Tons c.
Jan. 1 to Sept. 30, 1879.....3782.....2,452,542	Jan. 1 to Sept. 30, 1879.....4,743,356 0
Jan. 1 to Sept. 30, 1878.....3521.....2,224,511	Jan. 1 to Sept. 30, 1878.....4,006,581 0

Increase.....141.....228,031 Increase.....736,775 0

General Statement, Jan. 1 and Sept. 30, 1879.

Increase in coals imported by railway.....	736,775
Increase in coals imported by sea.....	228,031
Less increase in exports.....	165,363

Total increase in trade within the London district.....799,443

GENERAL MARKETS.—English railway stocks still continue very buoyant; there has been a good deal of buying in them, no doubt mostly of a speculative character, still the public have been quietly investing in many of those stocks which have been unduly depressed of late, and the higher they rise the more buying we may expect; that trade has really at last begun to improve is fully shown by the Board of Trade Return published this week. The principal rise has been in Brighton, A., which are about 5 per cent. higher for the week. Other stocks, however, nearly all show an improvement of 1 per cent. to 2 per cent. Foreign bonds have fluctuated a good deal, Chileans have risen considerably on more favourable news from the seat of war. Egyptians are all lower, there being a good deal of uncertainty as to the dates of payment of the dividends; the variations in the Preference and United loans have ranged from 2 per cent. to 4 per cent. American railways continue to attract a great deal of attention, especially Erie shares. Grand Trunk and Great Western of Canada are both firm. Telegraph shares and miscellaneous securities have all been in demand. The funds are steady. Mining shares, particularly tin mines, have been very active, and a general rise in prices has taken place.—W. H. H. WATSON: 1, St. Michael's-alley, Cornhill, E.C., Friday Morning, Oct. 10.

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PERSONS desirous of being EXAMINED in this District for MANAGERS' CERTIFICATES OF COMPETENCY, under the above-named Act, should at once COMMUNICATE with the Secretary to the Board of the above-mentioned District at the following address.

By order of the Board,
The Wardwick, Derby. W.M. SAUNDERS, Secretary.
N.B.—Persons who do not reside within the District are equally eligible for examination with those who do.

COAL MINES REGULATION ACT, 1872.

EXAMINATION FOR MANAGERS' CERTIFICATES OF COMPETENCY.

DISTRICT UNDER THE CHARGE OF JOSEPH DICKINSON, Esq.,
H.M. INSPECTOR OF MINES.

PERSONS desirous of being EXAMINED in this District for MANAGERS' CERTIFICATES OF COMPETENCY, under the above-named Act, should at once COMMUNICATE with the Secretary to the Board of the above-mentioned District at the following address.

By order of the Board,
314, King-street, Wigan. MASKELL WM. PEACE, Secretary.
N.B.—Persons who do not reside within the District are equally eligible for examination with those who do.

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Oct. 4—	Red Rock.....	40.....	£ 9 7 0	Nevill, Druce, and Co.
5—	Frongoch.....	50.....	9 2 0	ditto
—	ditto.....	100.....	9 1 0	ditto
8—	Great Dyllife.....	40.....	9 17 6	Walker, Parker, and Co.
9—	Roman Gravels.....	200.....	9 14 0	ditto
—	Talargoch.....			
—	Maesyreuddu.....	50.....	10 16 6	ditto
—	Coetia Llys.....	30.....	10 13 6	Adam Eytton.
—	North Hendre.....	50.....	10 3 0	Quirk, Barton, and Co.
—	ditto.....	50.....	10 2 6	ditto
—	ditto (round).....	10.....	11 5 0	Walker, Parker, and Co.
—	Prince Patrick.....	50.....	10 12 6	ditto
—	ditto (round).....	10.....	12 3 6	Sheldon, Bush, and Co.
—	Rhydalun.....	20.....	10 11 6	Adam Eytton.
—	Pictou.....	5.....	10 2 0	ditto
—	Queen of the Mountain.....	5.....	9 18 6	ditto

BLENDE.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Oct. 3—	Talargoch.....	40.....	£ 4 15 0	Villiers Spelter Co.
—	ditto.....	55.....	4 12 6	ditto
—	ditto.....	140.....	5 4 6	Vivian and Sons.

Notices to Correspondents.

* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt; it then forms an accumulating useful work of reference.

Received—"S. R." (New York)—"E. G."—"W. B."—"H. E. J." (Toronto)—"Shareholder" (Derwent)—"An Old Reader" (Bristol)—"Shareholder" (Gosport)—"Member" had better apply to the Secretary for the information he requires.—The Correspondence respecting the Colombian Hydraulic Mining Company shall appear next week.—Capt. George Rickard, on Rock-Boring Machinery for Metallic Mines, is unavoidably deferred: it shall appear next week, also letters on Instantaneous Steam Generation, and Electric Motive Power—"Shareholder" (Penrith).

IMPORTANT NOTICE.—FOREIGN POSTAGE ON THE "MINING JOURNAL."—Under the Universal Postal Convention the postage of the Mining Journal to many countries has been greatly reduced as compared with former rates. Henceforth the subscription will be 12. 10s. 4d. per annum (39 frs.), postage included, for the following countries. The amount will, if desired, be collected at the subscriber's residence at the end of each year. The subscription continues until countermanded.—Austria, France, Belgium, Denmark (including Iceland and the Faroe Islands), Egypt, Germany, Gibraltar, Greece, Heligoland, Italy, Luxembourg, Netherlands, Norway, Portugal (including Madeira and the Azores), Roumania, Russia, Servia, Sweden, Switzerland, United States, Malta, Turkey, Morocco, Tunisia, and the Canary Islands. Spain 12. 19s. (50 frs.). Subscribers remitting to the office can in most cases avail themselves of the International Postal Money Order system; in those in the United States and Germany should advise their remittance by letter, as the Post Office does not give the sender's name.

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, OCTOBER 11, 1879.

COMPENSATION FOR INJURIES TO WORKMEN.

Mr MACDONALD having stated his determination to re-introduce in the next Session of Parliament his bill for giving compensation to workmen for injuries received whilst following their ordinary employment, we are glad to find that in the discussion that will necessarily follow some new and important information will be furnished in opposition to that one-sided, unfair, and class measure. Mr. T. WOOD BUNNING, of Newcastle, so well known in connection with the North of England coal trade, a short time since visited the Continent, and whilst there made himself acquainted with the laws relating to compensation for injuries to workmen in France, Belgium, and Germany, and also obtained the opinion as to their working from the highest legal and Government authorities. The valuable data thus obtained has been issued to the parties immediately interested by the Mining Association of Great Britain, who cannot fail to appreciate the able and exhaustive manner in which the question has been treated. On several occasions we may say we have directed attention to the subject, and we are pleased to find that our views have been so thoroughly endorsed by Mr. BUNNING, and to a considerable extent also by the law existing in Germany, France, &c. We have admitted that there was some ground for holding a master responsible for any act of his own, the carrying out of which resulted in injury to a person in his employ, or where such may have taken place through the orders of a person he has appointed as his representative. But it is very different where a workman has been injured by his own act, or that of a fellow workman in the same employ to which neither master nor his representative have in any way contributed by word or order. But cases of culpable negligence on the part of a mine owner or manager are fully met by the existing law, whilst there is no law or power by which a master can obtain compensation from one or more workmen who may do him injury to the extent of many thousands of pounds, as there is every reason to believe has been the case with reference to not a few of the colliery explosions that have taken place. With respect to the greatest explosion recorded, that of the Oaks Colliery, evidence went to show that it was caused by a heavy charge of powder in blasting through some stone into a drift, and the loss must have been from 20,000l. to 30,000l. to the owners. If the bill of Mr. MACDONALD had been in force in 1866 the owners of that colliery, in addition to the heavy loss named through the recklessness of one or two men, would have been obliged to pay a much larger sum in addition to the representatives of the men killed and injured. Yet this is what the leaders of the working miners say the latter are entitled to as a matter of justice. As employers are believed to be men of capital it is, therefore, sought to make them responsible for the laches of the workmen whereby any person is injured. The proposal is too absurd—too monstrous in fact—to suppose that any body of gentlemen of average intelligence could be found capable of giving it their sanction, or in any way aiding in embodying it in an Act of Parliament.

The Member for Stafford has spoken approvingly of the system adopted in Germany, where compensation is given for loss of life or injuries sustained in the working of railways and mines; but the law does not go to anything like the extent Mr. MACDONALD would lead us to believe, and this is fully shown by Mr. BUNNING. The German law of June 7 provides that—"If any person in the working of a railway is killed or bodily injured the company is liable for the damage caused, unless the company proves that the accident was caused by force majeure or by the personal fault of those killed or injured." With respect to mining, however, the law does not go so far, for Section 2 states that—"Any one working a mine, quarry, pit, or factory is liable for the damage caused by the death or bodily injury of a person if such accident originated in the fault of an authorised agent, a representative, or a person acting as manager or surveyor of works, or workmen." The compensation, it appears, in case of death consists of the doctor's bill, the cost of burial, the loss of income incurred during illness, whilst if the deceased was legally under the obligation to support others those persons could seek damages, in so far as they were deprived of his assistance. In case of injury there would have to be paid the doctor's bill and the loss of income whilst unable to work. It will be seen that the German law only makes provision for the owner's liability where it is shown that an accident was caused by the fault of his representative or a person holding a position of trust, and was, therefore, not liable for the faults of any of the workmen, which was the great point sought for on behalf of the miners of this country. This is not a deduction of our own, for Herr BRASSETT, the Inspector of Mines in Germany, distinctly states that the owner is not liable for the fault of a fellow workman. He further says that "whoever makes a claim for damages must prove that the injury or death was brought about by a fault of an authorised personal representative whilst in the execution of his duty. Efforts, it appears, have been made to change the law in Germany as they have been in England, for Herr BRASSETT says that motions have been repeatedly made in Parliament to alter the law so that the principle applicable to railways—where the companies are liable in every case—should be extended to mines and other undertakings, so that the mineowner should be considered liable so long as he did not prove on his part that no fault was to be found in the management of his authorised representatives, manager, &c.; but the endeavours pointing to this alteration of the law have at present no prospect of success, because the respective laws with regard to the proof of guilt were too much in accordance with equity in the several cases to allow of their being altered with any regard to justice. As to the amount of compensation to be paid in Germany, it is stated in Section 4 that if the killed or injured were insured in any other office or fund then the payments made from such funds are deducted from the compensation (provided the owners contributed to them). But, according to the Prussian Law of 1865, mine proprietors are bound to pay to the miners' funds at least half of the contributions of the workmen employed at their works. Should, for instance, a workman be injured, and the owner of the mine be declared liable to pay an annuity to the injured person, which would be 600 marks without considering the miners' fund, from these 600 marks would be deducted the annual payment which the injured man

had to receive from the miners' fund, so that the mine proprietor would in reality only have to pay an annuity of 300 marks. The object of this law was to favour the formation of miners' supporting funds and to encourage employers in contributing to them. This course, we can say, is now being adopted in nearly all the important coal mining centres in the kingdom, and the masters have contributed so far most liberally. In a petition presented last session from the ironmasters of South Staffordshire against the employers' liability it is stated that they had for many years supported hospitals and other kindred institutions for the benefit of the persons employed by them, and if a Bill with respect to the liability of them towards their employers was passed they would be restrained from supporting such institutions. This would certainly be the result of the passing of any of the Acts that were introduced in Parliament during the last session, so that the workmen would be in a much worse position than they now are were the wishes of their so-called friends fully carried out.

The law of France with respect to responsibility is rather peculiar, and is defined by the Civil Code, better known, perhaps, as the Code Napoleon, and Article 1382 enacts that every act of a person which causes injury to another obliges the person by whose fault the injury was committed to make compensation. As to mineowners, they are only reached if they can be proved guilty of negligence or imprudence. Where the culpability rests with the engineer or overman they only are liable for injuries, and the same liability applies to the workmen. But in the case of miners the person who worked one or the lessees would be held responsible for the acts of negligence or imprudence of his engineers, viewers, or workmen, living or killed by an accident. Thus a workman firing a shot in a quarry were others where working, and several workmen were killed by an explosion, the proprietor or the person working the quarry would be liable for the acts of his workmen. As to who was responsible where there was no culpability, Mr. ALFRED DUPONT said no culpability was only admitted where the accident could not be attributed to act or deed, or to negligence or known imprudence, which was called in France "a case of force majeure." In such a case there could be no responsibility. The same law is applicable for railways and all other industries, but the law obliges the plaintiff who has suffered injury to prove the act of negligence or carelessness to which he attributed his injury. But we are told by Mr. BUNNING that in order to understand the full bearing of the Code Civil it must be taken for granted that the provisions therein contained, applicable to masters and workmen, refer to damages which may be caused by the latter, and not damages suffered by them when performing the duties in which they are employed, in which case masters and workmen can only be made amenable for their own personal acts, and such it appears has been the interpretation of the courts of law, for it was laid down by one of the judges that "masters are not responsible for accidents which happen to their workmen in the exercise of their employment." In another case judgment was given as follows:—"It is admitted that no responsibility can be fixed on the masters in this instance; that in effect the provisions of the law applicable to masters and agents (commetans) refer to damages which may be caused by them, and not to damages suffered by them when performing the duties in which they are employed. In this case the masters and agents (commetans) are under the common law, and can only be made to answer for their own personal acts." In the case of a mine accident the decision of the Court of Lyons was that "a workman hurt in a hazardous employment, of which the dangers were a part of his calling, cannot claim damages against the owner if no fault can be imputed to the said owner." In the same court it was held that "the master of a workman was not responsible for an accident happening to the said workman by the imprudence of another of his workmen."

In Belgium, in the working of mines and all other industries, the responsibility is regulated by the general principles of Articles 1382 to 1384 of the Code Civil of France, so that the person by whose fault an injury has been committed has to make compensation. Monsieur JULES DEL MARMOI also states that there is not in Belgium, any more than in France, any special law defining the responsibility of the proprietors or lessees of mines in respect of the damage caused by accidents resulting in injury. But in order not to be responsible in case of accident it is necessary that every care and diligence should be exercised in the administration of all undertakings. In principle we are told this question is sometimes difficult to solve, and an illustration is given in a case which came before the Court of Brussels in February, 1877, the question to decide being who was responsible for the fall of a cage which was descending to the bottom of a shaft with several persons, and which led to the death of some of them. The enquiry proved that defects existed in the iron of which the cage was constructed, but were not visible, and had not been noticed during a minute inspection made two days before the accident by men especially appointed for the purpose. On the other hand, no ostensible cause could be ascribed which would produce such a violent shock as was the immediate cause of the breakage. Under those circumstances the plaintiff, the father of a young woman killed by the accident, did not succeed in his claim for 1000 francs damages, the Court of Brussels deciding in favour of the worker of the mine.

We have shown that the miners in Great Britain are fully as well off as regards legal safeguards, if not better, than their fellow-workmen on the Continent whilst following their employment. Statistics also show that the deaths from mine accidents in France and Belgium are far higher for the quantity of coal raised than they are with us, and if we add that the wages paid to our miners are from 40 to 60 per cent. higher, with less working hours, than in those countries we think it will be admitted that the British miner is in every way far better off than those in any other part of the world—in a much better position even than those in America, to which many of them have been asked to emigrate.

Our mineowners are certainly under a deep obligation to Mr. BUNNING for the valuable information he has obtained, we may be sure not without considerable difficulty, and we cordially agree with his closing remarks—that it would be a monstrous injustice to owners and lessees of mines already injured by a great accident which may have destroyed their workings, caused them an immense damage, and thrown hundreds of men out of work, were they now to be condemned to compensate numerous victims for a negligence or imprudence which could not have been their fault.

THE UNITED STATES AND THE IRON TRADE.

The social and commercial condition of the United States being at the present juncture a matter of considerable interest to the British iron trade we make no apology for again referring to the subject. It appears to us that the commercial advantages which the Americans will derive this year from the deficient harvest of Great Britain and Western Europe have been under estimated. We recently set down the extra profit which the United States are likely to derive from their prodigious wheat crop at 10,000,000l., but we fancy this sum, great and substantial as it undoubtedly is, is below the mark. The United States will send Great Britain and Europe somewhere about 11,000,000 qrs. of wheat this year, and the price of wheat seems likely to be about 10s. per qr. higher this year upon this side of the Atlantic than it was in the autumn and winter of 1878. The actual difference is already 7s. per qr., and the margin is increasing from day to day, so that 10s. per qr. may not be the full difference. Then there is account to be taken of the flour, maize, &c., which will also find their way this year from the United States to Europe; but the gain does not stop here, because careful estimates which have been framed upon the subject place the progress of the production of wheat in the United States this season at 39,250,000 qrs., representing (at 50s. per qr.) a money value of 98,125,000l. No doubt all this new wheat has not been raised for nothing. But American agriculture is a cheap and primitive affair, and of the total of 98,125,000l. just mentioned at least one-third (or say 32,000,000l.) ought to remain in the hands of the Americans as so much additional profit. If, then, the wheat, flour, and maize likely to be exported from the United States in 1878-79 will leave the Americans an extra profit of 10,000,000l. we must allow another addition of 32,000,000l. to the profits of the American agricultural interest in respect of the progress of wheat production. Here we have an addition of 42,000,000l. to the working capital, so

to speak, of the American nation. We admit that any calculations which we may make upon the subject must be pronounced rather confused and unsatisfactory, and so indeed they are. Still, the broad tangible fact remains that the enormous agricultural production of the United States this year will make a very great addition to the wealth, capital, or whatever you may please to call it, of the American people.

We have heard of the intention of the Americans to proceed with the construction of 4000 miles of new railway; but with those acquainted with the enormous area of the United States and the remarkable rapidity with which American railroads are constructed any such limited figures as 4000 miles will probably only excite a smile. If wealth pours in upon the Americans at the rate at which it is now accumulating upon their hands the next six or seven years are more likely to witness the construction of 40,000 miles of new railroad instead of 4000 miles. But, perhaps, the greatest source of the extremely active demand which now prevails for railroad material in the United States is the improvement of existing American railroad systems. As American railroads increase in productivity they advance also in respectability, and their road-beds are brought up more to the European standard. To sum up matters briefly, we may close with the remark that the United States are just now extremely prosperous, and that for some time to come they can scarcely fail to be very large consumers of railway material.

THE BANCA TIN MINES.

It is well known that the Banca tin mines, the property of the Dutch Government, are amongst the formidable competitors of Cornwall, if, indeed, they are not the most formidable of all. The yearly output 1874 to 1878 has averaged about 68,000 piculs (1 picul = 61.75 kilogrammes), and it is this enormous quantity which has weighed heavily upon the home tin market during the period of depression from which we are just emerging. It is, therefore, satisfactory to note a large diminution in the output of these famous Indian mines, which yield to the Government about 500,000l. per annum. This diminution has been officially stated by the Dutch Minister for the colonies in his explanations accompanying the Budget for the Dutch East Indian colonies for 1880, just presented to the States General at the Hague. The tin to be sold is estimated to realise 36 guilders per 50 kilos, against 35 guilders in 1879, an estimate considerably below current prices. But although the higher estimate of 1 guilder per 50 kilos would, under ordinary circumstances, justify a larger sum being put down for the total yield of the tin sales, the Minister has estimated that yield at 350,000 Dutch florins less than in 1879, in consequence, he states, of an important decrease in the produce of the Banca Mines. In the Budget for 1879 the total produce is estimated at 70,000 piculs, whereas only 60,000 piculs are put down for 1880—a reduction of 10,000 piculs in one year, or more than 14 per cent. For a long while such good tidings have not reached Cornwall as those contained in the above few figures.

THE IRON AND COAL INDUSTRIES OF NORTH WALES.

There is no part of the kingdom where the iron trade has declined to anything like the extent of that of North Wales, where the ore is of good quality, and where there is an abundance of coal well adapted for smelting. The beds of ironstone are really valuable, more especially the "brassy" and the "blackband," from which in 1869 there were raised 33,431 tons for the Brymbo and the Fwd furnaces. Hematite of a fair quality has also been obtained at Bodfair, near Flint, and it has also been found at some other places, but not worked. With the many advantages enjoyed by the northern portion of the Principality, including plenty of stone, lime, and fuel, with shipping ports and railway communication, so that both home and foreign markets are of easy access, it is certainly surprising to find that so far from any progress having been made in the most important of our national industries, the production of pig-iron was less in 1878 than it was 20 years previously. At Ruabon, which is only some 18 miles at most from Chester by the Great Western, the New British Iron Company have three furnaces, but they were all out last year, whilst at the Fwd Works, near to Wrexham, there were two out of the three in blast. The furnaces at Mostyn, which is a place where a good deal of coal is shipped, are situated quite close to the colliery belonging to the company, but last year the two were out of blast. In 1874 and the following year the produce of the furnaces was exceptionally large, but in the three following years there was a marked falling off, for the Mostyn Company had both their furnaces at work, obtaining, as is the case with most of the ironmasters, the principal supply of stone from the coal measures. At one time, indeed, so much stone was raised in North Wales that a considerable portion of it was sent into other districts, for in 1859 the quantity raised was 87,072 tons, whilst the make of pig was only 26,890 tons. Denbighshire, it may be said, supplies nearly all the stone that is used. Flintshire, raising a thousand tons a year, and sometimes rather more, but there is no doubt but what a much larger tonnage could be raised in that county, seeing that it is credited with nearly one-third of all the coal produced in North Wales. The actual trade done during the last 20 years will be seen from the following figures:—

Year.	Ironstone—tons.	Furnaces.	In blast.	Pig-iron—tons.
1855	65,820	11	8	31,420
1859	87,072	13	6	26,980
1861	86,500	12	5	46,658
1863	28,282	13	7	51,076
1865	98,280	14	7	51,871
1867	44,082	9	5	32,843
1869	33,493	8	6	38,530
1871	51,887	8	5	41,893
1873	38,286	9	5	42,773
1874	44,380	9	6	51,868
1875	42,184	9	6	55,099
1877	41,711	11	4	26,715
1878	57,044	11	3	23,091

Comparing the two last years with the two preceding them it will be seen that the decline was more than 50 per cent., and that less iron was made in 1878 than there was in 1855.

North Wales contains some of the finest coal to be found in the kingdom. The curley cannel, which was first raised at Leeswood, near Mold, in 1862, being particularly rich in oil, and giving 14,280 cubic feet of gas to the ton. The largest portion of the coal worked is from the Denbighshire field, which commences near Oswestry and runs from thence to Ruabon, Wrexham, and to the Valley of the Alyn. The seams are of fair quality and thickness—the main coal running to nearly 8 ft. in thickness, and the brassy to 5 ft. whilst there is another seam called the two-yard coal.

Some 20 years ago there were no deep collieries, so that the production was but moderate, the output in 1858 having been only 527,000 tons, whilst last year it was 1,513,900 tons. Now, however, there are several deep shafts, the Hafod Colliery being about 500 yards from the surface. A large tonnage of the coal goes on to the Great Western Railway, that for last year amounting to 988,675 tons. But with such a field the tonnage of coal raised in the county should be much larger than it is, for at the present rate of production the seams at a depth of 4000 ft. would last something like 1000 years. The Flintshire field is an old one, for, according to PENNANT, the coal seams of Mostyn were worked in the time of EDWARD I., and in the 17th century Dublin and the eastern parts of Ireland were supplied from the same locality. The London and North-Western takes a large tonnage of coal from Queensferry, from the collieries near to the station as well as those in the Buckley district. A couple of miles from Hawarden is the Aston Hall Colliery, the lessor of which is Mr. W. E. GLADSTONE, from which a good deal of coal has been raised, there being a line to Queensferry as well as to the River Dee at the same place, where vessels of moderate burden load. At Mold one of the seams is about 11 ft. thick, whilst the Hollin coal is rather more than 6 ft. A considerable tonnage of cannel was at one time raised at Leeswood Green, Coppia, Coed Talon, Nerquis, Wern, and Leeswood Hall, but of late years there has been a falling off. Yet so far back as 1865 the yield of cannel was 150,000 tons, or nearly one-

twelfth of all the coal that was raised in North Wales. The Leese-wood curley canal gives 14,280 cubic feet of gas to the ton, the durability of the gas per foot per minute being 82.30, the illuminating power in candles 10.09, and the grains of sperm per foot 1.908. A fair tonnage of coal is sent to the London market from Coed Talon and a few other collieries, the London and North-Western having taken from the former last month 1710 tons. The tonnage raised in the two counties, however, has been anything but progressive for years, but the tonnage during 23 years has about doubled. This will be seen from the following figures, showing the output from 1854 to 1878:—

Year.	Tons	United Kingdom.
1854	1,143,000	64,661,401
1855	1,125,000	64,453,070
1856	1,096,500	66,605,450
1857	1,046,500	65,394,707
1858	1,022,500	65,008,649
1859	1,662,000	71,979,765
1860	1,750,500	84,042,698
1861	1,870,250	86,039,214
1862	1,660,000	81,638,338
1863	1,728,000	86,292,215
1864	1,987,060	92,787,873
1865	1,983,000	98,150,587
1866	2,082,000	101,630,544
1867	2,371,250	104,500,480
1868	2,385,000	103,141,157
1869	2,155,180	107,427,557
1870	2,329,030	110,431,192
1871	2,500,000	117,352,028
1872	2,550,000	123,497,316
1873	2,450,000	127,016,747
1874	2,425,300	125,067,916
1875	2,349,118	131,867,105
1876	2,207,250	133,344,766
1877	2,479,580	134,610,763
1878	2,222,357	132,607,866

It will be seen that the output has not been equal to the general increase, which in 1878 was more than 100 per cent. over that of 1854.

NOTES ON COAL DUST EXPLOSIONS.

At the recent meeting of the North of England Institute of Mining and Mechanical Engineers Mr. D. P. Morison (member of council) communicated an interesting abstract from the *Annales des Mines* of a review, by Mr. Louis Dombre, of the paper on this subject, read before the North of England Institute by Messrs. A. Freire-Marreco and D. P. Morison. After reviewing to some extent the important experiments conducted by Mr. Galloway, and published by him in the *Transactions of the Royal Society* and other periodicals, the author (Mr. Dombre), examining the theory propounded by Mr. Galloway of the danger of a mixture of coal gas (or fire-damp) and coal dust, proceeds:—"Messrs. A. Freire-Marreco and D. P. Morison express their opinion that Mr. Galloway's conclusions are too absolute. According to their views coal dust is simply a generic term, and the specific dusts should be described. There are dusts and dusts—e.g., that of cannel coal differs from that of anthracite. It may be possible, then, that the dust on which Mr. Galloway experimented did not possess the qualities requisite to produce explosion without the presence of an admixture of fire-damp, but the same may or may not apply to other dusts. These considerations induced Messrs. Marreco and Morison to extend the scope of the experiments of Mr. Galloway, and the results given in the paper already presented to your institute are carefully detailed, with reproductions of the diagrams, and the conclusions to which your attention was invited."

Mr. Dombre, after criticising the table of flames produced by the various samples of dust submitted, concludes his paper by the following remarks, which, proceeding from an impartial judge, should merit attention from the fact of that impartiality, as well as from the interest according to his remarks from several analogous cases cited by him:—"From the experiments which have given rise to this notice we think that we may be entitled to assert—First, that a gaseous mixture produced by a shot may in certain cases set fire to coal dust held in suspension in the atmosphere of the working place where the shot was fired, and thus produce a veritable explosion. Second, that the nature and composition of dusts play an important part (*un rôle capital*) in the mode of commencement and in the propagation of such an explosion. It is probable that the inflammation of the dust will be (other conditions being equal) more easily effected and further spread by the fact of the coal which produces the dust possessing a larger proportion of volatile matter."

"We must now ascertain how far such an explosion will be localised, embracing a district more or less extended from its origin, or whether it may under certain circumstances spread through the mine, and thus become the cause of catastrophes, such as those of Pelton, of the pit 'Cingsols,' of Llan, of Jabin, or of Blantyre. This question is one which the results of experiments, however ingeniously conducted, can scarcely elucidate, and its solution may, perhaps, for ever be only a theoretical induction. It now appears undeniable that in the presence of fire-damp, even in minute proportion, the explosion, at first local, spreads with rapidity, and may even assume suddenly alarming proportions. But if no fire-damp exists in the workings where the explosion originates, and if none is to be found in the neighbouring workings, is it to be supposed that the gases evolved by this more or less complete carbonisation of the dust alone are sufficient of themselves to sustain combustion, propagating it, and permitting it to feed itself by alimentation from distant districts of the mine?"

In a footnote Mr. Dombre mentions that, in the explosion of the Jabin pit, coke was found on the timbering nearly 1½ in. in thickness, and that the analysis of this coked dust proved that 25 per cent. of volatile matter had been lost (between the states of dust and coke), or, in other words, that every kilogramme of dust had given off in weight 70 grammes of inflammable gas, quite enough to account for the most disastrous effects of heat, and after-damp which have yet been experienced. Blantyre, Swaithe Main, Pelton, and too many other local sweeping catastrophes, point to the dire effects of dust explosions, as exhibited by the coking and charring of bodies, timbers, the sides, or roofs of galleries at points far distant from any possible reach of gas *per se*, and here it may be asked whether any heavy wide-spread explosion has been observed, and noted in a seam sufficiently damp to prevent accumulations of dust in the working places or main roads.

Mr. Dombre, after some instructive remarks in criticism of the theory that excess of ventilating force may intensify explosions, and after particularly the support given by M. Chaussele to this idea, thus potently expresses himself:—"Although to some slight extent sharing these views, we may observe that in our opinion improvements in ventilation do not constitute the primordial cause of this tendency of local explosions to develop into catastrophes, but that the fault lies in the increased area of the workings themselves, and in the larger number of men working in one district and in one current of air."—(this appears to apply especially to the longwall)—"or, more plainly, in the undue concentration of the working places." He then adds that increased ventilation has had to follow the necessity created by this increase of face and workers, and continues—"Speaking of what he terms the 'paradox' of Mr. Chaussele, Mr. Galloway recommends the use of water for laying the dust in workings where powder is used. 'In future,' he says, 'in addition to the old cry of 'air, more air,' we must add a new one easily supplied—'more water.'"
Mr. Galloway, perhaps, overrates the possibility of applying in practice the remedy he proposes. If the employment of water is practically possible in English mines, the same does not hold good on the Continent, where the seams are lying at heavy inclinations, and under very different conditions of stratification. Is it not better to cut at the root of the evil by requiring from the mechanic a tool, simple and handy, suppressing and superseding gunpowder or other igniting mediums in dry and dusty workings?"

The subject of coal dust and its influence in colliery explosions having now been taken in hand by an influential and practical committee appointed by the Chesterfield and Derbyshire Institute of Engineers, well provided with the sinews of war, some further light may

be thrown on the almost unknown influences of dust, heat, and drought in colliery disasters.

BOILER ACCIDENTS, AND THEIR PREVENTION.

The second part of a paper on this subject was read before the North of England Institute of Mining and Mechanical Engineers on Saturday, by Mr. D. P. Morison. The author's object was to amplify the previous paper, and classify "the uses, construction, and efficiency of the various societies or other schemes for assisting or alleviating the disasters which attend the employment of steam generators or boilers, and as far as practicable to trace their causes, and possibly to suggest means for their prevention. After furnishing tables of boiler statistics to the end of last year, the author stated that there are 200,000 boilers in the kingdom, but the number is probably higher. He suggests that the Government should take up the matter in order to ensure accuracy. The boilers, he thought, should be classified as—marine, locomotive, portable, and stationary. The first three classes are chiefly fired internally; the fourth class might be subdivided to show whether internally or externally fired, and also their type. He thinks the figures could be obtained through the inspectors of coal mines, factory inspectors, and the Railway and Marine departments of the Board of Trade. At present many boilers are under the care of inspection and insurance companies. He then gives what he designates British ideas of inspection, Government superintendence, and inquests.

The highest perfection which could be devised for boilers would be—undoubted scientific and safe form; best material and workmanship; good mountings and well regulated fittings; attention by experienced men, fully capable of making a thorough and competent inspection of every part at short intervals; and that those in charge should take such interest in their work as never to neglect an opportunity of such inspection. In practice there are many difficulties to contend with, and most boilers work under far inferior conditions. In the first place the forms of boilers differ materially, and safety is only one out of many considerations in making choice. The most suitable material and modes of manufacture, and proportion of seams and rivets, are still matters of conflict of opinion. The mountings also may be either as much self-acting as possible, or subject to constant control, and each class has its strong advocates. The exigencies of modern work demand more division of labour than wasting on ordinary firing the time of one able to inspect, and the attendant is apt to be influenced by the desire to keep the works going, and to postpone the day of inspection. The experience of an ordinary boiler attendant cannot be compared with that of an inspector, who has wide experience of all classes of boilers, and a good study of many instances of mishaps from which to form good judgment as to the best means to avert casualties. The whole matter becomes one of judgment, and sound experience tells for much, especially in colliery, factory, ironworks, and similar outlying places.

It has been said that the remedy of Government inspection is not so certain as to warrant the cost of necessary inspectors, and that it is preferable to foster the willingness of owners to undertake the arrangement for inspection for themselves through associations. Mr. Morison explained that the Board of Trade inspection of marine boilers was optional even in passenger vessels, but owners generally obtain the certificate, as it assists them in case of mishap. Many consider it would suffice if it were made compulsory that all boilers should be inspected twice a year, leaving the owner to select and to be responsible for the selection of the inspection company most likely to be efficient at a moderate cost. Inspection then would be a fair and useful employment for individuals or companies, and a great part of the difficulty would vanish. Mr. Morison suggests that the investigation of coroners' inquests on boiler explosions should be recorded without requiring the juries to add scientific reasons for the explosions, and that it would be convenient if the record of explosions could be obtained with more certainty than by the private efforts of the companies. A short account of the effect and cause of each, either from special reports or compiled from the reports furnished by the coroners, would, he thinks, be useful if published in such a form as to be fairly intelligible to the working man in charge. For this purpose hand-made sketches are useful in preference to scientific line drawings or long tedious descriptions—those of the Railway Department of the Board of Trade are considered sufficient. The author then compares boiler accidents with railway accidents, and gives numerous lengthy tables and statistics showing the number and nature of accidents, and the mode of treating them. He concludes by promising next to consider the setting and the materials and construction of boilers.

IMPROVED ELECTRIC LIGHT.

Heretofore when powders have been used for the production of light by electricity they have been caused to pass across a comparatively wide field of action, that is through a considerable space from one electrode to the other, so as to form a stream of particles which in traversing the electric arc become momentarily incandescent, or are burnt up and dissipated, and generally one pair of electrodes act only once upon the powder in its passage through the lamp. The present invention of Mr. A. Weir consists in arranging the conductors forming the electrodes of the lamp in such manner that each pair may act upon the same particles of powder any given number of times during their passage through or across the field of electric action, whereby the light may be spread over a comparatively large surface, and its intensity (which in the electric arc is so injurious to the eyes) is thereby greatly modified. Any number of lights within the power of the generator may be placed on one circuit, and the electric force required is much less than where the electric arc has to be maintained. In order to effect this he arranges the conductors forming the electrodes in pairs parallel to but separated from each other by an extremely small distance (preferably not more than the diameter of the grains of powder employed), and with or without an insulating substance between them, and then by folding these pairs of conductors upon each other, or by winding them in pairs upon a mandril or otherwise, he produces an extended surface forming a kind of grating or ribbed surface of any required shape, each alternate bar or rib of which is part of one electrode, and the next bar or rib part of the other electrode. This electrode surface may be set at a greater or less angle with the horizon, and the powder allowed to fall down its inclined surface, after the manner of a cascade; or the electrode surface may be placed in other positions, and the powders projected against it; or the electrode surface may be caused to vibrate to and from the powder.

Whichever method be employed the grains of powder as they roll or otherwise come in contact with the alternating conductors forming the bars or ribs of the electrode surface, make and break contact therewith several times before quitting the field of the electric action, thereby causing a large number of electric sparks to be produced, and the said grains of powder to become white-hot, or incandescent, the aggregation or sum total of these sparks and incandescencies resulting in a brilliant and bright but comparatively soft light. It will be readily understood that the electro surface may be made of any desired form and size; it may be kept in motion or stationary, and may be divided into any number of separate parts, as each unit of the electrode surface will produce a certain proportion of light, whether separate from the rest or united thereto. The electric force required to produce light by the above means and arrangement is simply in proportion to the extent of the electrode surface employed, and is comparatively small, because the grains of powder act as intermittent conductors, but at the same time offer sufficient resistance to the passage of the current to cause them to become white-hot while making and breaking contact with the alternating conductors of the electrode surface. The apparatus above described may be employed in vacuo, or in an atmosphere of gas, which will not support combustion, such as nitrogen or carbonic acid, and in these cases the powder may be used over and over again with very little or no loss; or it may be used in the open atmosphere, but in this case there will be a continuous consumption of the powdered substance if the latter is at all combustible.

Various mechanical contrivances may be used for raising the powder for re-use after it has passed over the electrode surface to project

the powder against such surface, or to move the said surface to and from the powder; for example, in one arrangement he receives the powder after it leaves the electrode surface into suitably shaped receptacles, which at regular intervals of time or on the closing of an electric circuit determined by the flow of the powder itself are raised from the lower to the upper part of the lamp by means of clockwork, an electro-magnet motor, by hand, or otherwise being arranged so as to deliver powder to the electrode surface when in the uppermost position, and to receive powder from the said surface when in the lower position. In another arrangement, instead of receptacles raised intermittently, the powder is received into a receptacle below, and raised by an elevator continuously; or the glass shade surrounding the lamp may be adapted to rotate by any suitable mechanical appliance, and to raise the powder by means of ribs or corrugations formed on its internal periphery. In another arrangement the powder is projected against the electrode surface by means of revolving beaters or otherwise; and in another arrangement, more especially applicable, for example, to lights situated in the ceilings of rooms or chambers, he arranges a horizontal sheet of glass at the bottom of the lamp, and over it he places an electrode surface, as above described, a certain quantity of powder being placed between the glass and the electrode surface, and he causes the said electrode surface to be vibrated up and down by mechanical or electro-magnetic means, so as to make and break contact very rapidly with the grains of powder on the glass; this causes the said grains to become incandescent, and to show a light downwards.

THE YORKSHIRE COLLEGE.—The sixth session of the county college of Yorkshire began last Tuesday. The Calendar, which was fully noticed in the *Mining Journal* of Sept. 20 contains a prospectus of the work done in the various day and evening classes, with the examination papers set last session, and much other information of interest to students. Besides the ordinary course of education preparatory for the University or a learned profession, good work is being done in the college at Leeds in various departments of technology. The textile industries and dyeing departments, endowed by the London Clothworkers' Company (the latter not yet in full operation) appear to be well equipped, and likely to produce a good effect on one of the great industries of Yorkshire. The engineering and mining classes, though not, perhaps, so well attended, are certainly quite as much needed as the former. It is gratifying to observe that the college provides a good curriculum in civil and mechanical engineering, including field work, construction, and machinery. The classes for instruction in the theory and practice of coal mining, mining engineering, and colliery management meets for the first time this session on Oct. 20. The introductory lecture is to be given in the Philosophical Hall, Leeds, next Monday afternoon, and certainly nothing need be said to recommend such a class to those who are preparing for responsible positions in collieries, and who live within reach of the Yorkshire College. It will be sufficient to remind them of the beginning of the session.

MINERS' SAFETY LAMPS.—The Barnsley Magistrates had before them on Monday, a case which the bench stated was one of the most important mining prosecutions they had ever heard. John Gough, a hurrier at the Woolley Colliery, was committed for one month without the option of a fine, for unlocking and lighting a safety-lamp with a lamp-hook. The magistrates expressed their surprise, and said that hitherto they believed these lamps could only be opened by authorised lamp men. It was admitted that any lamp could be opened and relocked by the men. The magistrates stated that they would communicate with the Mining Inspector immediately.

HOISTING ENGINES FOR THE COMSTOCK.—One of the largest hoisting outfits for mine purposes ever built on the Pacific Coast has just been completed at the Risdon Ironworks, San Francisco, for the Yellow Jacket Mine on the Comstock. The whole outfit weighs some 350 tons. For beauty of finish and style the machinery is considered to excel any yet made there. The hoisting machinery consists of a pair of direct-acting engines complete, with reels, breaks, &c. The two engines work on one crank-shaft, and are 28 ft. apart between centres. The engine frames are of the Corliss, or circular patterns, and about 24 ft. long between the front ends of the cylinders and where the frames join the pillow blocks. The cylinders are 28 in. in diameter, with 8 ft. stroke of piston. The exhaust chests are cast on the side of the cylinders, and low enough to have the valve-seats below the bottom part of the cylinder. Each engine has its pillow block cast in one piece, and bolted to the frame, with side and bottom brasses. The centre pillow block is bored to 21½ in. diameter, and has a 32-in. length of journal. The crank shaft is turned bright. It is 19 in. in diameter at the ends, and 21½ in. in diameter in the centre. The method of construction of the crank and crank plates is peculiar. There is a crank at each end of the shaft, made of wrought-iron, and 4 ft. long from centre of shaft to centre of pin. The crank hub is 36 in. in diameter, and 17 in. thick. Each crank is bored, turned, and planed on faces and sides, and on each side is forged a tongue to fit in the crank plates. These crank plates are of cast-iron, circular in form, and each made in two pieces. When the two pieces are bolted together the disc is 13 ft. in diameter and 14-in. face. Each plate has a recess to fit the tongue of iron left on each side of the crank. These plates are turned and finished on faces and edges, after the crank is put in place between the two parts, which are bolted together, and enclose it. This is an expensive method of construction, but a most effective one, the forged crank then being embedded in the cast plate. There are two reels with twelve moveable arms each. The reels are 6 ft. in diameter and 7-in. face. They run upon eight bearing brasses, all adjustable. The reel arms are made adjustable to take in various widths of rope. The brake wheels are made 15 ft. in diameter and 12-in. face. The clutches are 60 in. in diameter and 29 in. long. They are banded with two wrought-iron bands. The clutches are worked by two hydraulic cylinders, 8 in. in diameter and 8 in. stroke. Each break wheel has three breaks on each side and one at the bottom. These side breaks are models of strength. They consist of two upright wrought-iron trussed arms, 19 ft. long, connected on top by a double adjustable rod. The under shoes are 9 ft. long and 12 in. wide. The bottom breaks are wrought-iron straps. The straps are wood covered, and are operated by a combination of levers. In addition, each crank plate has a wrought-iron strap break. Each reel is furnished with one of Behr's patent spiral drum indicators, 4 ft. in diameter and 6 ft. in length. The machinery was built from the designs of Mr. H. Patten, the consulting engineer of the Yellow Jacket Company.

AMALGAMATING CHLORIDISED ORES.—The ores of silver are, according to the invention of Mr. JAMES O. STEWART, of Georgetown, Colorado, first chloridised whether with or without gold, by roasting them in the ordinary way with common salt, and they are then amalgamated with mercury in wooden pans or barrels, out of contact with iron, but with copper linings or balls, using in the operation instead of water the liquors from a previous amalgamation. The liquors, after the amalgamation is completed, are carefully preserved for use with fresh portions of the ore previously chloridised by roasting with salt. The advantage is thus secured of a strong brine for holding in solution the compounds of the base metals, and amalgamation of the precious metals is favoured more than can be done with water or the simple use of weak brine, which is ordinarily used with the mercury in working chloridised ores; for the strong brine, holding in solution other chlorides and compounds of base metals, extracted from the previous charges of the ore and used out of contact with metallic iron, acts upon portions of ore not perfectly roasted, and causes a larger yield of the precious metals than can be obtained by the use of salt water, as in ordinary amalgamation. A store tank is used for holding the recovered salt solutions, and from this tank the brine is drawn into a wooden pan or barrel, where it is charged with the roasted ore. It is then heated by steam, and the mercury is added. In a few hours the contents are drawn off into a settler tub, which is also of wood. When the mercury and amalgam have sufficiently settled, the contents, consisting of ore and brine, are drawn off into a filter tub. Here the brine is filtered out, and allowed to run through a tub which contains copper, or mercury, or both, to precipitate any silver or gold which may still remain in solution, and thence is pumped

into another tub to precipitate any copper which may be in solution, and thence to a pump tub to be raised again to the original supply tub, for use again in fresh charges of ore.

REPORT FROM CORNWALL.

Oct. 9.—Our October forecast is receiving ample and speedy realisation. Two advances in the tin standard already since the month opened and the prospect of more to come would cheer the hearts if we had been even more depressed than we were, and if the dismal forebodings of the croakers and the annihilation of Cornish mining had been imminent had really been true. It is very gratifying to anyone who through evil report and good report has held firm to his faith in the lasting character of our tin mines as compared with our opponent to find that his most sanguine anticipations are being thus realised. We shall not be at all surprised to find the present advance nearly doubled by the end of the year. The indications are all in that direction, not only as regards tin itself, but other metals, with copper and lead both improving. Tin has a double prospect of advantage—it gains by the general advance in the metal market, and it gains specially also by the slackening of the colonial and other foreign competition to which it has been subjected. All classes are sharing in the results of the improved prospects—the adventurers, of course, in higher dividends and reduced calls, and the working miner by the increase of employment and the advance of wages. Several new mines are on the eve of being opened up or old ventures reworked, and at other places operations that had been restricted are being rapidly extended. Happily there seems as yet no indication of undue excitement and wild speculation, which have been among the greatest bane of mining enterprise. The coming winter, unless every prospect is to be falsified, will be the most cheering Cornwall has known for well nigh a decade, and probably another generation may pass ere there will be anything like a return to the dark days through which we have passed. Fluctuations, however, there always have been and always will be. The real consolation is that every advance in the improvement of mining enterprise enables us the better to meet them. No one who is at all acquainted with the facts but recognises that Cornish mining now stands upon a much firmer, because a much more economical, basis than it did at the last time of high prices.

One of the advantages conferred upon Cornwall and its mining industry within the past few years has undoubtedly been the formation of the Mining Institute. We have been enabled to ascertain that the forthcoming Exhibition of the Institute at Redruth will be one of singular excellence, and include many novelties. Mr. H. R. Marsden will show the model of a new stone-breaker, or rather crusher, which by the introduction of a kind of grinding action in the jaws will not only break up the rocks but reduce them to a powder. Mr. Jordan will exhibit for the first time his dead-blow hand-power rock-borer. Mr. Bucknell will have his glass sleepers, as at the recent meeting of the Iron and Steel Institute. Messrs. Osborne, of the Clyde, will show a number of castings; Messrs. Guy forward metallic tungsten and tungstic steel; Messrs. Hathorn send models of compressors, &c., and Andre's and Stokes' electric lamp, which will be shown in operation. There are many other features of interest, but these will for the time suffice as an example, and we may add that there will be a trial of rock-borers at Wheal Agar. We are not aware whether Capt. Southey will forward his jiggging apparatus, but it has been suggested that he should do so. If he did it would greatly help in the solution of the recent controversy. The suggestion has been made, and there is no reason whatever why it should not be carried out, so far as the rival bidders are concerned a series of experiments should be instituted with the view of ascertaining which really wastes the least quantity of tin. Of course, all must waste some, or whence the "Red River."

We are glad to hear that the proposed commission on the use of explosives initiated by the Polytechnic Society, and taken up by the Miners' Association, has advanced another stage, and that the Mining Institute has joined in the movement and appointed its representatives. The abilities of the gentlemen who have been delegated to this work by the several societies are amply sufficient to indicate that the enquiry will be thorough, and one, therefore, that is likely to lead to very important practical results.

Capt. Teague got over his difficulties with the Beaumont Company very happily. He stated at Carn Brea account that the dispute was settled, though not without going to London and having the matter tried before a judge. The Beaumont Company claimed 3000*l.*, and they (the mine) claimed 2000*l.*, but before the judge they tore the Beaumont Company's case to "shivers," and luckily they were not catechised on their claim. He had the judge's award, the result of which was that he gave the Beaumont Company a shilling because he would not treat them shabbily, and, as he did not like to treat the mine shabbier than he treated the company, he gave them a shilling too. But the judge also thought it proper that the representatives of the mine should be allowed their expenses to London, so the Beaumont Company had to pay over that amount to the mine, and their other expenses would be less than 50*l.* For the time Carn Brea is not using a boring-machine, but it will again by-and-bye, still capital work is being done there now by hand labour. Capt. W. Teague, jun., stated at the meeting that 12 men and six boys had sunk 7 fms. in two months, and that six men had driven 6 fms. in one month. This is first-rate speed.

[N.B.—Before this report was finished came the news that a further instalment of advance had occurred even earlier than we anticipated, and that the tin standards were advanced another 3*s.*, making a total improvement of 17*s.* in all; it is not unlikely that 20*s.* will be reached within a few days. Excitement is now considerable, and the share market is showing symptoms of greater activity than seen for years.]

The death is announced of Capt. ZACHARIAS WILLIAMS, who was for upwards of 40 years an agent under Messrs. John Taylor and Sons at the Wheal Friendship Mine. Capt. Williams's devotion to his work, and long experience of mining and of heavy pumping machinery, caused his services to be highly valued by his employers. He died at Mary Tavy, near Tavistock, on Sept. 29, at the age of 82 years.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

Oct. 9.—An improvement has undoubtedly taken place in the Iron Trade, and it is certainly not confined to one locality, but appears to be general, and Derbyshire is now sharing in it, although there has as yet been no increase in the production. But there is every reason to believe that should matters go on as they have been doing during the last few weeks before long some more furnaces will be put in blast. The recent advances in prices have had the effect of reducing stocks, singular as it may appear, for consumers consider that prices will still go up; hence the desire to purchase at existing rates. In manufactured iron there is also more doing, but as yet not to any appreciable extent. Bessemer rails are in as active request as ever, so that there is still a large out-put. Coalowners of late have been doing much better than for some time past, and there has been a marked increase in the demand for London, but without any alteration in price, for consumers can now purchase on the same terms that they did during the summer months. Derbyshire it may be said now sends more coal to the London market than any other county, or even the whole of Wales, South and North. Its proximity to the Metropolis and the moderate rate charged by the Midland Railway place it in an almost exceptional position, so that colliery owners in other and more distant districts are able to purchase it and have it sent direct to London cheaper than they can raise it at their own pits. Steam coal is still in rather moderate request for the time of year, and prices rule low. The collieries in the county, however, are now free from strikes, the men at the last place where they thought it advisable to oppose their employers having resumed work after mutual concessions. In common and small coal not much is being done, the consumption of engine fuel in the Lancashire manufacturing districts being still but moderate. A good deal of coke is now being turned out, and this now meets with a fair sale in the Sheffield and other districts.

The improvement in most of the Sheffield trades which com-

menced some five or six weeks ago is still maintained, and there is now every appearance that it will continue, and there is in all directions a far more hopeful feeling as to the future than has existed during the previous part of the year. Makers of pig-iron have been doing a large business, and prices have gone up astonishingly, more especially for hematites, the consumption of which in the Bessemer converters has greatly increased of late. Ordinary furnace and mill pig as a matter of course has also advanced in price as the demand for it has also increased. Makers of Bessemer rails are doing well so far as orders are concerned, but they must be working very close so far as profits are concerned, owing to the advance which has taken place in the raw material. Some fair Government contracts are in hand for heavy armour-plates as well as for rifled barrels and gun-blocks. In cast-steel there has been some little improvement of late, and there is every probability of a marked increase in the demand for that material, and just now a good deal is being sent to America. Steel plates for ships and boilers are also coming into greater request, whilst steel wheels are also being more extensively produced. A good business continues to be done with Australia in most descriptions of goods, whilst other of our colonies are also taking more from us than during the early summer months. Cutlery manufactures are by no means busy, but some of the leading firms are able to keep their hands fairly going in the best qualities of table and pocket knives. The foundries are moderately well employed, whilst the engine and machine works are still comparatively quiet, as they have been for a considerable time.

In South Yorkshire the Coal Trade is in anything but a satisfactory state, the wages question being still a bone of contention. In several places the men have been requested to submit to a reduction of wages, and in reply to this the delegates from the various lodges passed a resolution that an advance of 10 per cent. should be demanded, and in case of its refusal that the output should be reduced one-fourth. October 8 was the day fixed for giving in notices for the advance, but the men on calm consideration evidently thought that discretion was the better part of valour, so that on the day named no notices were sent in. As it is, however, there are several collieries standing, whilst the association is unable to render the men any material assistance. At some collieries also the men are under notice, and will have to leave unless they agree to a new price list or to a reduction of wages. The trade, it may be said, has improved, and at several collieries the men are able to work full time, and are getting very fair wages. The business doing with London in house coals has declined during the past month so far as South Yorkshire is concerned, owing to the high rates charged by the Great Northern, which throws a large quantity of the traffic into Derbyshire, where the rate to London by the Midland is much lower. Steam coal has gone off very well of late, a large tonnage being sent to Grimsby for shipment to the North of Europe. A fair quantity is also being forwarded to North Lincolnshire for the use of the furnaces in that rising iron-making district, and there is every prospect of an increase in the requirements, as it is said some more furnaces there are likely to be put in blast before long.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Oct. 9.—In Wolverhampton yesterday the Quarterly Meetings commenced, and there was much anxiety to know what were the prices which were to rule in the ensuing quarter. It quickly became known that no change had been made in the price of coal, which remains at for furnace sorts 8*s.* per ton. It was intimated that there might, however, be a rise on Nov. 1. The leading Shropshire and Staffordshire pig makers re-declared 3*l.* 5*s.* for all-mine hot blast, and 4*l.* 5*s.* for cold-blast irons. These prices have ruled since the opening of the year. While last Quarter-day these prices were mostly nominal yesterday they were actual selling rates with no abatement. Hematite pigs were particularly firm. The agent for the Barrow Company asked 3*l.* 10*s.*, and sellers of Tredegar pigs 3*l.* 12*s.* 6*d.* These figures show a rise of 10*s.* and 12*s.* 6*d.* per ton upon some former rates, and prevented much business being done. Northampton pigs were not to be had except at a rise on old rates, and one firm asked by circular an advance of as much as 1*l.* All local makes were firmer upon the quarter. Marked bars were re-declared at 7*l.* 10*s.* with 8*l.* 2*s.* 6*d.* for Earl Dudley's brand, which are the prices fixed a year ago. Common bars are 6*l.* to 6*l.* 5*s.*, which is not so low as last quarter, and other descriptions of medium and common finished iron also improved in price. Sheets for galvanising purposes were not to be had except at a good advance—in some cases of from 10*s.* to 15*s.*—upon the late minimum, and makers reported themselves well filled up with orders. From 7*l.* 10*s.* to 8*l.* may be quoted for common singles. Best sheet iron for stamping has by steady small advances reached, in the case of a few firms, a rise of 1*l.*, and rather to check business than otherwise a further 2*s.* a ton is asked by some. As an instance of the improved business doing in finished iron it is mentioned that one well known house has lately refused contracts amounting to a total of 20,000 tons. Galvanised sheets have been put up by Messrs. T. W. and J. Walker, merchants, a further 1*l.* per ton, making a total rise of 2*l.* They now quote 45*l.* in Liverpool as their price for ordinary brand. Tin-plates are in very active request, and prices are up. I.C. coke of the "Stour" brand is priced at 19*s.*, a rise of 3*s.* upon former minimum rates. The advance is not excessive, but consumers are reluctant to give it.

At Birmingham, on Thursday, there was more than usual animation, the Quarterly Meeting being attended by merchants and buyers from all parts of the country, and representatives of many foreign houses. American buyers in particular mustered in great strength. Business, though decidedly better than at the July meeting, scarcely corresponded to the magnitude of the attendance. Enquiries were numerous, and a good many negotiations were entered into, but, excepting in one or two special lines, the resulting orders were unimportant. Prices were strong all round, at the advance lately established, and in several instances makers demanded and obtained a further advance. Standard qualities, both of pig and finished iron were unchanged, the former at 65*s.* for hot-blast native all-mine, and the latter at 7*l.* 10*s.* for bars, with the customary 12*s.* 6*d.* extra for those of Lord Dudley's make. At these prices, however, producers were not eager to book for forward delivery. The chief improvement of late has been in unmarked iron and second-class pig, both of which had fallen through competition and trade depression to a most unremunerative level until the recent upward movement set in. Most descriptions of common Staffordshire pig were from 5*s.* to 10*s.* higher than at the previous quarterly meeting, and the rise in Derbyshire, Northamptonshire, West Coast, and other foreign iron was still more marked. In unmarked finished iron the rise was from 10*s.* to 20*s.* per ton. Sheets were 15*s.* per ton higher, and for galvanised iron as much as 3*l.* advance was asked, large contracts having lately been booked at a rise of 2*l.* These rates yesterday had the effect of restricting business, and many specifications were withheld, in the belief that the rise will not be maintained beyond the end of the navigation season. In tin-plates, however, a large business was done, and purchases on an extensive scale were made by American buyers at an advance of 4*s.* to 6*s.* per box on the recent minimum. Makers in this department report themselves fully booked up to the end of the year. In ordinary merchant iron there is not so much doing, and in several instances makers, whilst refusing orders at last week's prices, acknowledge that they are in want of specifications. The rise in pig-iron, however, and the apprehension of an early rise in coal, compel them in prudence to decline further engagements at old rates. As regards coal, the apprehension of a rise would seem to be premature, as stocks are abundant, and excellent furnace coal is offered by Cannock Chase, owners at 6*s.* per ton at the pit mouth, which is 3*s.* under the Dudley list price. House coal is in improved demand, but the supply is still in excess of public requirements.

Several objects of interest were exhibited in the hall. A good deal of attention was bestowed on a working model of Chandler's patent railway wagon coupling, by which the connection of vans, wagons, engines, and goods vehicles is effected from outside the buffers, entirely obviating the danger to which brakemen and others are exposed when coupling the vehicles between the buffers. It consists simply of a double swing link, of elongated form, moving on an arm or lever, suspended from the coupling hook, which is

fixed. Attached to each link is a cord or chain, which is carried on pulley wheels to the side of the truck, where it terminates in a weight. On pulling the upper or front cord the link is raised over the opposite hook, into which it is lowered by simply pulling the lower or back link cord. To uncouple, it is only necessary to reverse the operation. A model was also shown of the automatic gas lamps, Hearson's patent, which makes gas as it burns from a small reservoir of benzoline in the summit of the lamp, at a cost of less than a farthing an hour. Messrs. Harris and Pearson exhibited samples of the well-known fire-clay bricks and boiler-seating blocks. Messrs. Butlin submitted samples of their Wellingborough pig, and Messrs. Taylor and Challen showed plummer blocks and plain and split pulleys.

The North Staffordshire coal and iron trades share in the greater prosperity of the industries in the south of the county, otherwise there is not much that is new to report this week.

The inquest on the bodies of the eight men who were killed in the colliery explosion at Leyceet, North Staffordshire, was concluded on Thursday. Mr. Wheelhouse, Q.C., attended on behalf of the Home Office, and Government inspectors also attended. The evidence was to the effect that the pit was fiery, but that the explosion would not have happened had not a level been cut against the manager's orders by the deceased men, which resulted in gas being driven through a Davy lamp. A verdict of "Accidental death" was returned.

REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

Oct. 9.—The letter of "W. L." in last week's Journal relative to the Cambrian Mines and their critics is not a difficult one to read and understand. If I am the regular Correspondent about whose health he is so anxious, I should be glad to relieve his anxiety by assuring him of my welfare. He may be quite sure, however, that it has never been the chief amusement of my life to growl at the Cambrian Company. "W. L." does not seem to understand fair criticism, or the fact that underneath it all there may be a sincere desire for the business success of an enterprise, or he might have interpreted recent silence as a patient hopeful waiting for the redemption of great promises which has been somewhat strengthened by the various parcels of copper sold by the company. Very much more will have to be done before promises are redeemed, and before a dividend can be declared on the paid-up capital.

In a former report I expressed the hope that I might be permitted to record the inauguration of a plan that would embrace the delivery of field lectures on mining. I am now in a position to redeem my promise. The following proposal, which bears the signature of D. C. Davies, of Gobowen, has been submitted to some of the leading engineers of the Principality:—

THE NORTH WALES INSTITUTE OF MINING ENGINEERS.
It is proposed to establish a society with the above or some similar title. Its purposes will be:—
1.—To promote intercourse between gentlemen who are professionally or otherwise engaged in mining operations with their associated industries.
2.—To promote an intimate knowledge of the mineral resources of North Wales and the border counties, together with the collection of information relative to all the practical details of mining industries.
(a) By the preparation and reading of papers on such subjects, with discussions on the same.
(b) By visits to mines, quarries, collieries, &c., during the summer months, and by the holding of meetings during the winter months in various towns within the district.
(c) By the publication—periodically, or as often as sufficient material may be collected—of the Transactions of the Institute, which shall as far as practicable be illustrated.
3.—To endeavour to establish a library of mining, scientific, and technical works of value; and
4.—The establishment eventually, if possible, of a school or institute of mining for the Principality of Wales.

It is proposed as soon as a sufficient number of gentlemen have expressed their adherence to the scheme to hold a meeting at some convenient place in order to consider and decide upon the constitution of the society, the rules for its management, and the plan of its operations.

I can only wish the movement success, although probably Mr. Davies has made a mistake in submitting his proposal first to the leading and successful engineers, who are usually too busy and too satisfied with their own success to trouble themselves about such movements.

There is a strong movement progressing in the Principality for the purpose of utilising the endowments of Jesus College, Oxford, for the promotion of the "higher education" of Welshmen. I hope that in any successful scheme there may be a provision for the teaching of science in its practical applications. The teaching from professors of natural science in our colleges is for the most part too theoretical and speculative.

Who is the Mr. Humpige, Ph.D., B.Sc., who has been elected to the chair of Natural Science at the University College of Wales, at Aberystwith? The first of these titles is hardly a recommendatory one. Still he may be a good man, notwithstanding his title.

The sale of the plant, &c., at Brynkinalt Colliery has been postponed until the end of the month.

A fatal accident has occurred at No. 2 Pit, Broughton Colliery. A man who was replacing the guides falling down the shaft and meeting with instantaneous death. A man has also been killed by a fall of rock in a cutting on the Bala and Festiniog Railway.

TRADE OF THE TYNE AND WEAR.

Oct. 8.—The coal shipments at Tyne Dock have been about an average during the week; there is, however, some improvement in the coal and coke trades in Durham, and gas contracts have been made at slightly advanced rates. Should the rapid rise in the value of pig-iron continue a number of furnaces will be blown in, and this must act very speedily on the demand for coal and coke in Durham, as the furnaces will require large supplies, and this movement will relieve the shipping trade from the glut so long experienced, and consequently the coal and coke shipped must rise rapidly in value. The natural consequence will be that several collieries that have been closed some time will be reopened. The Redheugh Colliery, in Gateshead, which has been closed since February, is expected to be opened shortly. In Northumberland the steam coal trade continues in a healthy state, and most of the works are fully employed. This is very satisfactory when it is considered that most of these pits were only employed about half time at this period last year. The demand for small coal is also improving in the county. At North Seton the output is very gradually increased. The Gosforth Colliery, which has been closed some time, is to be reopened immediately.

The iron trade is in a very feverish state, and fears are entertained yet that a reaction may occur, but on the other side it is clear that the shipments continue very large, and stocks are rapidly decreasing; indeed the shipments are on a scale unprecedented, amounting last month to 101,000 tons, and there is a net decrease in stocks of 29,000 tons nearly; the stocks in hand are 290,000 tons. Several iron furnaces are to be blown in at once in the Cleveland district, and at Jarro another furnace is to be blown in. The iron ship-building trade has been very dull of late, but there is a revival of this trade also. On the Tyne some orders have been secured on the north side of the river, and also at Jarro. A contract has been made for a large iron screw steamer for the general carrying trade. The same firm have also secured an order for another torpedo steamer for the Government, and there are numerous enquiries from the managers of steam shipping firms in various parts of the country.

Oct. 10.—The Iron Trade is not so much excited as it was a few days ago. Pig-iron has also receded a little in price; there is a lull. Opinions vary as to whether the great increase in business will prove to be permanent, but it is thought that at all events a considerable improvement may confidently be looked for. The engineering and foundry trades continue very dull. The marine engine trade is very dull, and a large number of mechanics and others are unemployed. Greater animation is marked in the Durham coal trade; the output is being enlarged, and prices have advanced materially. Very considerable orders for coke have been placed in the Marley Hill and Crook districts.

At the North of England Institute of Mining and Mechanical Engineers meeting, held in Newcastle on Monday, a large number of members attended, the chair being occupied by Mr. G. C. Greenwell,

the President. Mr. D. P. Morison read "Notes on Coal Dust Explosions," abstracted from the Annales des Mines by M. Louis Dombre, being a review of the paper recently read before the Institute by Messrs. A. Freire Marreco and D. P. Morison. Mr. D. P. Morison also read a paper "On Boiler Accidents," being part 11 of a paper by the same author. The paper was illustrated by models of boilers after explosion, belonging to Mr. E. B. Marten, chief engineer of the Midland Steam Boiler and Inspection Company, who also addressed the meeting on the subject, and urged that there should be an inspection once a year by the engineers employed by the firms and not by the Government. He also stated that the theoretically perfect boiler with the view of avoiding explosions would be one constructed on the principle of the Perkins tubes used in the field for the army. Mr. R. S. Newall stated that one of Perkins' engines was at the present time working in a steamer on the River Tyne, and was working up to a pressure of 450 to the square inch. They condensed all the water they used, and used it over again, and there was little further supply required. There is a very great saving of fuel with the boiler, the quantity consumed being less than 1½ lb. per horse power per hour. A vote of thanks was given to Mr. Morison for his paper.—[Both these papers are referred to fully in another column.]

There was a better attendance than usual on 'Change at Middlesbrough. For years past the proprietors of the Exchange have afforded opportunities for the exhibition of articles of interest to the trade, but gradually there has been a falling off in the number of exhibits. On Tuesday all that was shown were a few specimens of nickel plating by the company, who recently established branch works at Stockton. There was considerable excitement as the usual frequenters of the iron market began to assemble, a feeling of firmness still prevailing. There certainly are signs of revival in trade in the North of England. The owners of pits and coke ovens are making large contracts at an advance in some cases of 1s. 6d. per ton. Several iron firms have received orders which will keep them employed during the winter. Some of the coal pits are again being opened for working operations. At Crook two pits are being put on, and Rough Lee and others in the Bishop Auckland district are to be reopened. For delivery next year sellers are quoting coke 10s. per ton at the pit. At the commencement of the market, No. 3 was quoted 51s. per ton, and small parcels changed hands at 50s. An order of 500 tons was booked at 49s. per ton, No. 3; 48s. was paid for No. 4 foundry; and forge was sold at 47s. 6d. per ton at the works. We have already mentioned that some of the pig makers contemplated blowing in certain furnaces which have been idle so long. Messrs. Samuelson and Co., of the Newport Ironworks, have blown in one, and arrangements are being made by the following firms in the Middlesbrough district for recommencing furnaces which have long been out of blast:—Messrs. Bolckow, Vaughan, and Co., two; Messrs. Bell Brothers, two; and Messrs. Gilkes, Wilson, Pease, and Co., one. The demand for pig-iron is good, and whatever may be said about there being a great deal of speculation mixed up with business, it is a fact that the shipments at Middlesbrough are active. The iron is actually going away and stocks are being reduced. Messrs. Swan Brothers, who, as merchants in both Glasgow and Middlesbrough, have taken such a prominent part in the revival, and in the execution of orders on American account, have another big steamer chartered to cross the Atlantic from Middlesbrough with pig-iron. The manufactured iron trade prices are advancing, but it is stated that that is not due to the increased demand, but to the fact that the owners of mills and forges are compelled to raise their quotations owing to the cost of raw materials increasing. Plates to-day were quoted as high as 67. 15s. per ton, and other articles in the finished iron trade were advanced in proportion. Railway chairs are in better request, and have been raised 7s. 6d. per ton. The East Argentine Republic have ordered a supply of Mr. Woods wrought-iron sleepers.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

Oct. 9.—The Commissioners appointed to investigate the causes of explosions in mines have been on a visit to this district during the week. On Tuesday they visited Abercarn, the scene of the disaster last year, and the Cwmcaran shaft. They descended the Celyn pit; and afterwards went down Harris's Navigation Colliery, where they inspected the vast machinery, and descended the shaft, which is 760 yards deep. On Wednesday and to-day they were to take evidence at Aberaman House, the residence of Sir Geo. Elliot, Bart., M.P. The following members of the Commission were present on Tuesday:—Sir Geo. Elliot, Mr. Burt, M.P., Professor Smyth, Professor Abel, Mr. Wm. Thos. Lewis, and Mr. A. Williams (barrister), secretary. They were accompanied among others by Mr. Thos. Cadman, Mines Inspector, and Mr. James. On Friday a visit will be paid to Dinas Colliery. It is intended, in consequence of the success which has attended the conveyance of hot metal from the Sirhowy Works to the steelworks at Ebbw Vale, to construct a larger locomotive to carry two cauldrons at once. The engine and breakdown at present make five journeys by day and the same at night. The news which come to hand this week from various parts of the district is such as to lead one to believe that a decided revival in the iron and steel trades has at length set in. It is a long time since such a satisfactory statement as can be made in this report has been able to be submitted to readers of the Journal. In times past so many false rumours have been started as to Cyfartha that at last people began to look at them as partaking of the nature of the old fable, in which the shepherd boy called "Wolf, wolf," when none was near the fold. At last, it is stated, and there is no reason to doubt the statement, that a partial restart will shortly take place at the well-known establishment of the Crawshays, and as a consequence great satisfaction is felt in the district. At Landore Works, too, the blast furnaces and coke ovens are to be utilised for the reduction of the large quantities of iron ore which the company intend to import. The pig-iron thus produced will be used mainly for conversion into steel rails and armour plates. Powerful machinery has been lately added to the works. Important news also comes to hand in reference to the Blaenavon works. These have been purchased, and it is to be hoped that shortly the establishment will resume its wonted activity as the Cwmbran works, belonging to the patent Nut and Bolt Co. Preparations are being made to increase operations; a new mill will be almost completed. Under the above circumstances, it may be fairly assumed that a general change for the better has set in. There is a slight improvement in quotations for finished iron, and for pig-iron prices have gone up very rapidly. Stocks have been largely decreased at the works. The American demand continues good, and large clearances have been made to the United States.

The Tin-plate Trade also shows a fair amount of activity, and the Transatlantic demand is well kept up. Prices, too, are better. The Tydee works are shortly to be restarted; and Mr. Phillips has commenced operations at the old Blaiva works. The men seem resolved to well support the Union they have formed.

There is as yet no change to be noted in prices for coal, but as the inquiry is excellent it is expected that a change for the better in quotations will shortly follow. Shipments are very large. For steam coals the demand is well kept up, and as the pits are working steadily the out-put is considerable. The house coal trade is also brisk. A section of house coal colliers have held a meeting and decided to have an Union of their own, apart from the steam coal men. A general delegate meeting of men has been convened. At the Pentre Police Court, Ben Lewis, late a fireman at the Dinas Colliery, sued the company for 7l. in lieu of a month's notice. For the defence it was alleged that defendant was incompetent; but the Bench held that was not the case, and ordered the money to be paid. At the Tredegar Police Court three hauliers were fined in a nominal amount for leaving their work at the South Wales Collieries. In consequence of their conduct the colliers were kept idle. The other defendants acknowledged they were in the wrong, and the summonses were withdrawn. They were told by the Bench that men must not leave their work in any pit through an accident occurring unless in the immediate vicinity of the place they are working.

Petitions have been presented to the High Court of Justice for the winding-up of the Bryn Alyn Lead Mining, and the Westminster Association.

PERRY COLLIERY (LIMITED), PERRY BARR, NEAR BIRMINGHAM.

IN LIQUIDATION.

MESSRS. JOSEPH COOKSEY AND SON have received instructions from the Liquidators TO SELL, BY AUCTION, on Tuesday and Wednesday, the 14th and 15th days of October, 1879, on the Premises in the occupation of the company, commencing each day at Eleven o'clock precisely, the very superior

MACHINERY, ERECTIONS, COLLIERY PLANT, & STOCK,

Consisting of a—

Commodious BRICK ENGINE HOUSE, 48 ft. by 25 ft., with pine hip roof, boarded and slated, containing a powerful horizontal high pressure PUMPING ENGINE, 33 in. cylinder 5 ft. stroke, with massive fly wheel (built to the order of the company by Leigh, of Patricroft); PUMPING APPARATUS, comprising connecting gear, reeler, and two massive cast iron T Beams; about 245 yards of pitch pine pump rods, with wrought iron coupling plates; about 57 yards of 1½ in. and 48 yards of 15 in. pump trees, with new 14½ in. working barrel; bucket, door pieces, and sliding stalks; new 12 in. PLUNGER, duplicate pinion crown wheel and crank; a double cylindrical CAPSTAN ENGINE (Dunlop, Hislop, and Co., Liverpool), on strong cast iron frame, with winding drum and brake, complete; and about 400 yards of 1½ in. diameter galvanised steel wire capstan rope; lofty capstan frame; boiler house, with galvanised iron roof; boiler seats and lofty chimney stack; Galloway boiler, 32 ft. long by 7 ft. diameter, and fittings; boiler feed ENGINE and PUMPS; drum wall and winding drum (worked by capstan engine), and about 300 yards of 1½ in. diameter galvanised steel wire capstan rope; ENGINE HOUSE, part brick and part wood, containing a horizontal high pressure WINDING ENGINE, 12½ in. cylinder 2 ft. 8 in. stroke, on cast iron bed plate; winding drum and brake, and about 600 yards of 1 in. diameter steel wire winding rope; vertical boiler, 12 ft. long 5 ft. diameter, with Giffard's injector; WOOD ENGINE HOUSE, containing horizontal high-pressure ENGINE, about 8 horse power, with vertical steam boiler; large mortar mill, with revolving pan; WOOD STORE ROOM; 550 yards of railway siding, with steel rails and points and crossings; quantity of wrought iron tram rails; nine wrought iron sinkers' bowls; air and water troughs; large wood pit scaffold; quantity of large pine baulks and other heavy and light timber and pit curbing; two dirt wagons; two double power winches; four pairs of blocks; two lifting jacks; quantity of lashing chains; sinkers' tools; smiths' tools; portable smiths' forge; sets of screwing and drilling tackle; 5 in. pump, with working barrel; clackpiece; small T beams, &c.; use iron; new 20 cwt. portable weighing machine (Avery's); smaller ditto; office furniture; rick of hay; and a variety of other effects.

The MACHINERY and PLANT are of the very best material and workmanship, and in first-rate condition, the greater part having been constructed specially for use at the colliery; and as the whole must be removed from the premises before the end of January next, the sale affords an opportunity for purchasing machinery of a high class which seldom occurs.

The Colliery is situated within a few minutes' walk of the Great Barr Station, on the London and North-Western Railway between Birmingham and Walsall. It is connected by a siding with the railway, which will be sold subject to its remaining undisturbed for a sufficient period to allow of its being used, if required, for the removal of the machinery and other colliery plant.

Catalogues may be had on application to Messrs. HORNER, LEE, and LEE, Solicitors, Newhall-street, Birmingham; Messrs. CARTER and CARTER, Accountants, 33, Waterloo-street, Birmingham; Messrs. S. and J. BAILEY, Mining Engineers, Perry Barr, Birmingham; to the Auctioneers, Paradise-street, West Bromwich; or at the Place of Sale.

SOUTH ROMAN GRAVELS MINES.

IN LIQUIDATION.

Four Miles from MINSTERLY, county of SALOP. Branch on the Shrewsbury and Welshpool Railway.

MR. W. BOUSTRED has been honoured with instructions from the Liquidators TO SELL, BY AUCTION, without reserve, on Thursday, the 16th October, 1879, the valuable

STEAM ENGINES AND MACHINERY

On the above Mines, comprising—

An excellent nearly new 22 in. cylinder ROTARY ENGINE, 4 ft. stroke, with link motion; capital 14 horse power PORTABLE ENGINE, with double cylinders, by Fowler, of Leeds; powerful pumping and winding gear, complete; 7 ton Cornish boiler, 24 ft. long and 6 ft. diameter; capstan; 9 and 10 in. lifts, with H and door pieces; pulleys; treble blocks; pitch pine; main rods; double power crab winch; balance bob; horse whims; ropes; chains; miners' tools; the contents of smiths' shop; new bellows; anvils; steel bars; hangers; and other effects described in catalogues, to be had at the Auctioneers' Office, Pontesbury, or by post on application.

Sale to commence at Twelve for One o'clock punctually.

BAGILLT LEAD WORKS,

COUNTY OF FLINT.

IMPORTANT TO IRONFOUNDERS, MINE AND QUARRY OWNERS, CONTRACTORS, AND OTHERS.

MESSRS. WILLIAM DEW AND SON have been instructed by Messrs. WALKER, PARKER, and Co., TO SELL, BY PUBLIC AUCTION, at the Works, as above, on Thursday, October 16th, 1879, at 1.30 P.M. prompt, the following MACHINERY, &c., &c., viz:—

A PAIR of cast iron CRUSHERS; a PAIR of powerful BLOWERS; about 10 tons WROUGHT SCRAP IRON; a 50-horse power double beam STEAM ENGINE, 18 in. cylinder, 5 ft. 6 in. stroke, 18 ft. fly wheel, &c.

AT DEE BANK WORKS.

A grand 400 horse power double beam STEAM ENGINE, by John Taylor and Sons, 46 in. cylinder, 7 ft. 6 in. stroke, 28 ft. 6 in. fly wheel, 26 ft. beam. All further information may be obtained on application to A. P. SKIPWITH, Esq., or Mr. HUGHES, at the Works; and the Auctioneers, Wellfield House, Bangor, and Town Hall, Rhyl.

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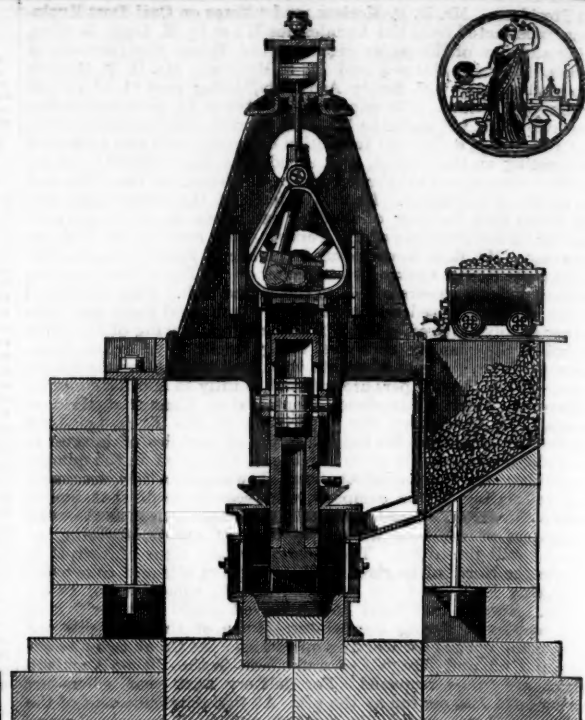
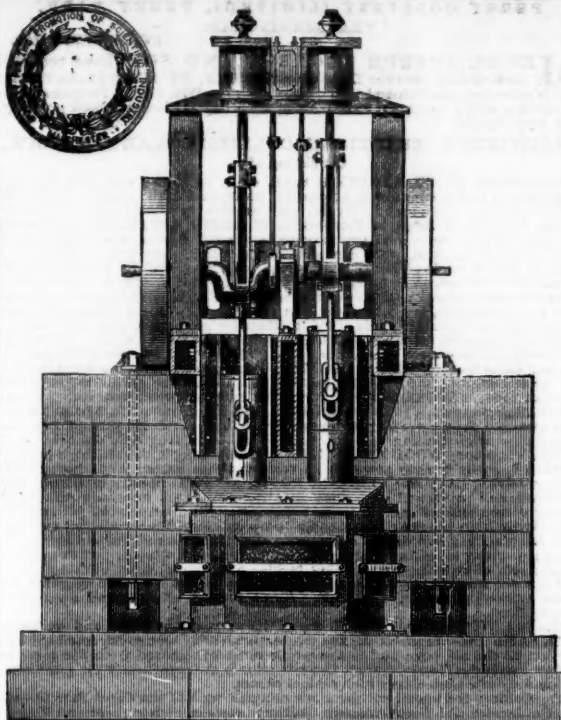
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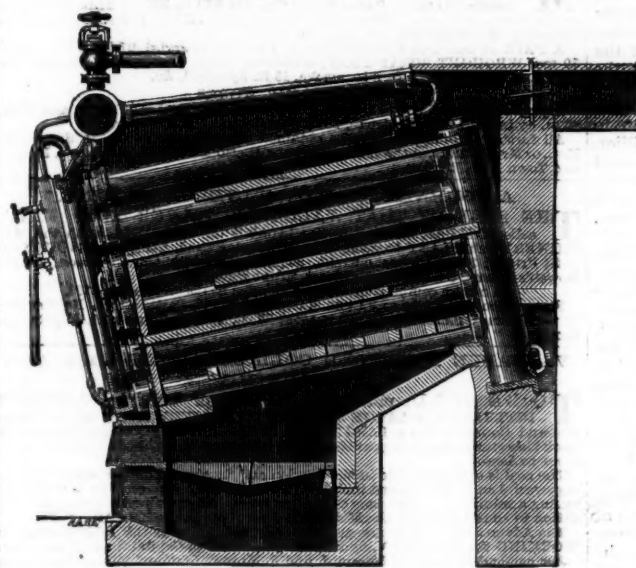
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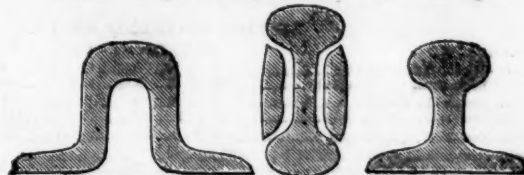
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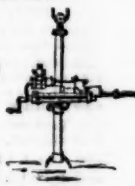
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